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A regression analysis for unit costing at NAVSUP activities

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THESIS

A REGRESSION ANALYSIS FOR
UNIT COSTING
AT NAVSUP ACTIVITIES

by

Glenn Edward Terry

December, 1991

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Unit costing is one of the important issues being faced by the Department of Defense (DoD). The ability to predict the cost required to generate a productive unit output is necessary because of current guidelines regarding the management of the limited resources available to the DoD. This thesis investigated the feasibility of developing such forecasts for the Naval Supply Systems Command (NAVSUP) using regression analysis. The analysis met with little success, most probably because the limited available data has only been recorded over the last 21 months due to the newness of the requirements of unit costing. The one positive result of the analysis was the discovery that some of the cost centers analyzed are affected by seasonality. In addition, the data for the last nine months appears to be better than the previous 12. This may be due to cost centers beccomming accustomed to monitoring costs and outputs more precisely than has ever been done before.

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A Regression Analysis
for Unit Costing
at NAVSUP Activities

by

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ABSTRACT

Unit costing is one of the important issues being faced by the Department of Defense (DoD). The ability to predict the cost required to generate a productive unit output is necessary because of current guidelines regarding the management of the limited resources available to the DoD. This thesis investigated the feasibility of developing such forecasts for the Naval Supply Systems Command (NAVSUP) using regression analysis. The analysis met with little success, most probably because the limited available data has only been recorded over the last 21 months due to the newness of the requirements of unit costing. The one positive result of the analysis was the discovery that some of the cost centers analyzed are affected by seasonality. In addition, the data for the last nine months appears to be better than the previous 12. This may be due to cost centers becoming accustomed to monitoring costs and outputs more precisely than has ever been done before.

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I   INTRODUCTION

A.   Background

One of the results of the changing world environment during the late 1980´s and the early 1990´s is the so called "peace dividend." This "peace dividend" forces the Department of Defense to manage its limited monetary resources even more frugally than in the past. In an effort to manage the scarcity of the available money given to the Department of Defense (DoD) by Congress, DoD has issued some rather specific guidelines to the various military services. In fact, these guidelines are becoming ever more specific each year. The indications are that the guidelines will also be increasing in scope with each fiscal year. Gone are the days when each Service was able to use a unique system. Consolidation and sameness are the new philosophies of the Department.

The current guidelines require the use of unit costing. The current Comptroller of the Department of Defense guideline´s state:

> Every manager and employee is encouraged to seek ways to become more efficient and effective. . . .a DoD-wide cost per output, or unit cost, resourcing system will be developed for a number of major functional, or business, areas to enhance visibility of costs and contribute to better management of resources. . . .All base operations costs will be considered part of doing business and will be treated as an overhead function or General and Administrative (G&A) expense recorded in the appropriate business area accounts. . . .The unit cost concept is that

all of the costs incurred at an activity, or within a
function, should be related to an output of the activity.
. . .The goal is to have each product or output bear as
accurate a cost as possible. . . .In addition to providing
a means to consider costs as part of day-to-day decision
making, unit cost provides visibility of cost drivers.
Cost drivers can be those actions taken that contribute to
the accomplishment of an output or a product at a
significant cost and should be evaluated for value added.
[Ref 1: pp. 1-2]

The Naval Supply Systems Command (NAVSUP) is one such
command that must follow this philosophy. Within NAVSUP the
above mentioned unit cost approach is called the productive
unit resourcing system (PURS). NAVSUPINST 7000.21A describes
the responsibilities of NAVSUP controlled personnel in the
management of the Operation and Maintenance, Navy (O&M,N)
budget execution process under the productive unit resourcing
(PUR) system [Ref 2: p. 1]. The concept expressed by the
NAVSUP Instruction is that:

    Under the productive unit resourcing system, NAVSUP
    commits to fund workload at the required level of
    performance; i.e., field activities will be funded on the
    basis of actual work performed vice the fixed
    workyear/cost funding methodology used previously. [Ref 2:
    p. 1]

Although NAVSUP´s concept was developed before the Department
of Defense guidance, it reflects basically the same
philosophy.

As a consequence of the above directives, it is becoming
more important each year to be able to predict just how much
funding will be required at each activity, given their
anticipated level of production output. In particular, NAVSUP
wants the ability to predict dollar amounts each cost center

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will spend per productive unit of output. The NAVSUP concept emphasizes that work units are dependent upon many various externalities. One such an example is Desert Storm, as it obviously caused many cost centers to generate many more productive units than anticipated when making the initial fiscal year projections.

B. Thesis Objective

At NAVSUP´s request, an investigation was conducted of the feasibility of using linear regression analysis for forecasting the costs associated with a unit of basic output for a wide variety of NAVSUP cost centers.

The first step of the analysis was an examination of the data in Appendix A. The results were that of the 156 cost centers 53 had no Units data available and therefore could not be analyzed. The definitions of the cost centers and a short description of what encompasses each cost center´s productive units as described by NAVSUPINST 7000.21A are listed in Appendix B.

The second step was to subject the data of those cost centers for which sufficient data existed to analysis by basic statistical forecasting methods, including regression and seasonality effects, in an attempt to develop a predictive model for each of these cost centers.

C. Scope, Limitations, and Assumptions

The data furnished by NAVSUP for each of the 103 cost centers analyzed covered the time interval between October 1989 and June 1991 (21 months). The data was provided in a *Lotus 123* format. Only this data was analyzed.

With the exception of the data entries identified by a negative value, all data furnished was assumed to be correct. The negative numbers observed in both the Units and Dollars fields were assumed to be errors and were not used in the analyses.

D. Preview

Chapter II begins with a description of the preliminary data analysis. It discusses how the furnished data was reorganized and the initial problems found with the data. The chapter also explains the regression model and its associated assumptions.

Chapter III presents the analyses of the data, describing how the regression functions were derived and presenting the results of statistical tests.

Chapter IV contains the analyses of the data using seasonality indices computed from that data. This chapter includes regression analyses of the deseasonalized data. The chapter also addresses potential problems with using the resulting regression functions.

Chapter V presents a summary of the thesis, conclusions drawn from the analyses, and recommendations for what to do next.

II ANALYSIS OF THE PROBLEM

This chapter deals with the preliminary data analysis. It discusses how the furnished data was reorganized into a more useable form and the initial problems found with the data. The chapter also explains the regression model and its associated assumptions.

A. Activities and Cost Centers

The data files were formatted into activities and cost centers. A cost center is a part of the activity that has a specific productive unit function associated with it. For example, DB is a disbursing cost center whose productive unit is primarily the number of checks issued. An activity can contain several different cost centers, and most cost centers are located in more than one activity. The data furnished consisted of 18 activities and 156 cost centers. Appendix A contains a glossary of acronyms and the listing of activities and cost centers.

The analysis was done strictly on the data. No attempt was made to determine the basis for what consists of a work unit or its output for any of the cost centers. The differences in missions of the various activities also was not considered in the analysis.

B. Data

All data analyzed was furnished by NAVSUP. The data was contained on a floppy disk in *Lotus 123* format and was divided into two files. One file contained Fiscal Year 90 data and the other contained Fiscal Year 91 data. Each row of data consisted of one cost center with the number of units of production listed in monthly order, followed by a listing of the monthly dollar amounts.

The first step of the analysis was to convert the files into a useable format which would facilitate statistical analysis. The two files were first converted into one large file. Then the file was separated into individual files, one for each activity. An activity is the physical command, for example ASO is an activity.

Each activity's file was subdivided further into its separate cost centers.

Finally, the data for each cost center was converted from one long row into three columns consisting of month and year, units of output, and dollars expended. The NAVSUP data in this final format is as shown in Appendix B.

C. Presumed Accuracy

The data furnished and as evaluated in its final form was assumed, with the exceptions listed below, to be a complete and accurate representation of the true circumstances.

1. Missing Values

The data for 84 of the 156 cost centers showed zero-filled or blank costs and/or units for at least one of the months. Those observations with blank or zero data were not used in the analysis. Fifty-three cost centers had completely blank or zero units of output.

2. Negative Values

There are also several instances of data containing negative units or dollars. When queried about the negative values, NAVSUP personnel indicated that such occurrences are impossible and most likely were simple errors. It was agreed upon with NAVSUP that the best and most consistent way to handle the negative data was either to ignore the data or simply disregard the negative sign. The first option was chosen because the concern that disregarding the negative sign would result in badly distorted observations. Appendix A lists the data with the negative values included.

D. Time Lag

One of the early concerns about the furnished data was whether it contained any lag time between reporting the units and when the obligation of dollars occurred. Telephone conversations with NAVSUP personnel revealed that the data furnished had already been corrected for any possible lag times. This was accomplished by the reporting method. Although the reported work units may have occurred at some

previous time in relation to the period reported, the obligations of dollars were recorded during the corresponding month in which the units were finally identified and shown as completed.

E. The Regression Model

Since the desire of NAVSUP was to predict the amount of dollars spent to generate a certain number of productive units, the number of productive units was assumed to be the independent variable and the costs (dollars spent) to be the dependent variable. The regression model used assumed a simple linear relationship between the two variables over their ranges of possible values.

The basic goal of linear regression analysis is the derivation of a formula for a straight line that best represents the actual relationship between the dependent and independent variables, dollars and units. The least squares approach is the usual way to accomplish this. The basic principle is that there exists an infinite number of lines that can be drawn on a plot representing the data, but there is only one that best fits the data in the sense of least squares. With this line the sum of squared prediction errors are the smallest in relation to the actual observations. The procedure is common and complete details on the process can be found in most statistical textbooks (see, for example, Reference 5).

1. The Regression Model

The regression model is: $Y_i = \beta_0 + \beta_1 X_i + \epsilon_i$, where

- X_i is the independent variable, units for this analysis;

- Y_i is the dependent variable, dollars for this analysis;

- β_0 is the Y intercept of the regression line. It indicates the point where the regression line actually intercepts the Y axis. It estimates the average value of Y when X equals zero. [Ref 3: p. 18]

- β_1 is the slope of the regression line, and;

- ϵ_i is the residual error associated with the ith observation. This term represents the difference between the model's result and the actual observed value Y_i for a particular X_i. This term does not appear in the fitted lines.

The least squares formulas for β_0 and β_1 and other important formulas of use in regression analysis are:

$$\beta_1 = \frac{\Sigma(X_i - \bar{X})(Y_i - \bar{Y})}{\Sigma(X_i - \bar{X})^2};$$

$$\beta_0 = \bar{Y} - \beta_1 \bar{X};$$

$$TSS = \Sigma(Y_i - \bar{Y})^2;$$

$$ESS = \Sigma(Y_i - \hat{Y}_i)^2;$$

$$RSS = \Sigma(\hat{Y}_i - \bar{Y})^2;$$

$$\hat{Y}_i = \beta_0 + \beta_1 X_i;$$

$$R^2 = RSS/TSS.$$

In these expressions,

- X_i = an observed value of the independent variable;

- $\bar{X}$ = average of all observed values of the independent

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variable;

- Y_i = an observed of the dependent variable which is associated with the observed value, X_i, of the independent variable;

- $\bar{Y}$ = average of all observed values of the dependent variable;

- $\hat{Y}_i$ = predicted value of the dependent variable associated with the observed value, X_i;

- TSS = total sum of squared deviations of the dependent variable from its mean value;

- ESS = error sum of squares, or unexplained sum of squared deviations of the observed values of the dependent variable from the corresponding regression estimates;

- RSS = regression sum of squares, or sum of squared deviations of the regression estimates from the mean of the observed values of the dependent variable;

- R^2 = coefficient of determination. R^2 indicates the explanatory power of the regression model.

2. Range of Accuracy Given by a Regression Formula

A common error that sometimes is made when using a regression formula is assuming that the model is accurate outside the range of the independent variable used for the model creation. An example of this is the value given by β_o. The fact that β_o does not go through the origin does not mean that the model is necessarily incorrect. This value is simply a place marker indicating a starting point for the regression line. Unless the independent variable had an observed value of zero, one should not generalize beyond the range of the data by claiming that the Y intercept is an expected value of the dependent variable when the independent

be a fixed or start-up cost causing the value going from zero to a very large value for the first unit of output.

Similar problems may arise if an attempt is made to use a model to estimate the value of the dependent variable for values of the independent variable greater than those used to derive the regression formula.

3. Specific Assumptions

The specific regression assumptions made for the analyses in Chapter III include:

1. No specification error.
   a. The relationship between units and dollars is linear within each cost center.
   b. No relevant independent variables have been excluded.

2. Assume the measurement error has a mean of zero.
   a. The independent variable is measured without error.
   b. The dependent variable is assumed to have error (some of which may be measurement error) associated with ESS.

3. The following assumptions concern the error term, ε_i:
   a. for each observation, the expected value of the error term is zero ($E(\varepsilon_i) = 0$);
   b. the variance of the error term is the same for all observations;
   c. the error terms are not correlated;
   d. the error terms, ε_i, are normally distributed. [Ref 3: p. 26]

III ANALYSIS OF DATA

The least squares method was used to develop the coefficients in the regression equation for each cost center having sufficient data to analyze. Each resulting regression function and corresponding set of residuals were examined to determine how successfully the least squares line fit the data.

A. Coefficient of Determination

The first evaluation was done to see how well the regression function accounts for variations in the dependent variable. This was accomplished by examining the values of the coefficient of determination, R^2. Its value represents the proportion of variation in the dependent variable explained by the regression function. The possible values of the measure range from 0 to 1. At the one extreme, when $R^2 = 1$, the regression function completely accounts for the dependent variable's variation. This implies that all observation pairs (X_i, Y_i) fall on the regression line. An extremely low R^2, one near 0, indicates that the dependent variable has virtually no linear dependency on the independent variable [Ref 3: pp. 21-24].

> Simple interpretations of R^2 make the coefficient of determination one of the most important measures of the adequacy of prediction equations....A large value of R^2 does not necessarily guarantee accurate prediction, but it

should be required before undue claims are made about the fitted model. [Ref 4: p. 83]

B.   Hypothesis Testing

After examining the R^2 for each equation the next evaluation was to test whether the regression line actually has a slope other than zero (as represented by β_1). This is best accomplished through a procedure called hypothesis testing.

Hypothesis testing involves setting up a hypothesis that allows for making a decision from two possible outcomes. The desired hypothesis, by custom, is usually called the null hypothesis, and is denoted by H_0. Typically, it states that a certain parameter of a probability distribution has a specified value. The alternative hypothesis, denoted as H_a, usually states that the parameter does not have that value; and may specify what its alternative value is. The objective of hypothesis testing is to either reject the claim of the null hypothesis and therefore accept the alternative hypothesis; or not to reject the claim of the null hypothesis. The null hypothesis will not be rejected in favor of the alternative claim unless sample evidence contradicts it and provides strong support for the alternative assertion.

The testing of hypotheses is accomplished through a test procedure. This procedure is a rule, based on sample data, for deciding whether or not to reject the null hypothesis.

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A test procedure is specified by:

- a test statistic, which is a function of the sample data on which the decision to reject H_0 or not reject H_0 is to be based; and

- a rejection region, which is the set of all test statistic values for which H_0 will be rejected. [Ref 5: p. 279]

The null hypothesis will then be rejected if and only if the observed or computed test statistic value falls in the rejection region.

The hypotheses of concern for the regression models are stated as:

- H_0: $\beta_1 = 0$ (the slope of the regression equation is zero); and

- H_a: $\beta_1 \neq 0$ (the slope of the regression equation is something other than zero).

If H_0 is true, it implies that the independent variable has no influence on the dependent variable (at least not through a linear relationship). Rejection of H_0 in favor of H_a leads to the conclusion that the independent variable significantly influences the dependent variable in a linear fashion. The rejection of H_0 means that a trend has been detected. However, nothing is implied concerning the quality of fit of the regression line. That is what R^2 is used for.

The test statistic that is used for testing whether $\beta_1 = 0$ is the t value. The t value is computed by dividing the estimated β_1 by the standard error of the estimate of the coefficient. This standard error is an estimate of the standard deviation of the slope estimate (β_1).

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The rejection region for this test comes from the t distribution table. To test H_0: $\beta_1 = 0$ against H_a: $\beta_1 \neq 0$ a two-tailed test is used. This test involves a rejection region on both the left and right ends (tails) of the distribution. A rejection region containing 5 percent of the total probability distribution is typically used. With the two-tailed test this means that 50 percent of the rejection region lies in either tail of the distribution. Appendix C is an abridged t table, covering only the rejection region for a 5% significance level and for the degrees of freedom for the data analyzed. Degrees of freedom is defined as the number of observations minus the number of estimated parameters (in this case β_1) minus one. Thus, for the regression functions analyzed in this thesis the degrees of freedom is the number of observations minus two.

For this test, the null hypothesis can only be rejected if and only if the computed test statistic value falls in the rejection region. Therefore, if the absolute value of the test statistic is greater than the value from the t table the decision is to reject H_0: $\beta_1 = 0$, and accept the H_a: $\beta_1 \neq 0$ at the five percent significance level. The analysis as done was only concerned with a significance level of five percent. The t value can be converted into its specific significance level with the use of formulas, tables or computer software programs. By doing this the specific significance level provided by the regression model results can be derived.

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C. Results of Analysis

Table 1 presents a compilation of the results of the regression analyses of the data from Appendix B, listed in descending order of R^2 values. The first two columns specify the cost center and the activity to which that particular cost center belongs. The regression function shows the coefficients determined by the least squares method. The column titled d.f. indicates the degrees of freedom for the particular regression function. The t value column is the calculated test statistic to be used for testing the null hypothesis of $\beta_1 = 0$.

TABLE 1. SUMMARY OF THE REGRESSION ANALYSES

Cost Center	R^2	Regression Function	d.f.	t Value
DB NORVA	0.97979	Y = -9.85092 + 0.001777 X	19	30.352
FR GLAKE	0.88237	Y = -64.46500 + 0.000981 X	19	11.938
SM PEN	0.85966	Y = 2.64187 + 0.000046 X	19	10.788
DB GLAKE	0.76510	Y = 19.63011 + 0.000730 X	19	7.867
FO PEN	0.72567	Y = -38.00501 + 0.085935 X	19	7.089
DB CHASN	0.63262	Y = -8.21305 + 0.002148 X	19	5.720
IC NPFC	0.61254	Y = -14.15843 + 0.011963 X	18	5.334
DB SPCC	0.53132	Y = 4.58633 + 0.002145 X	19	4.641
PD NPFC	0.49759	Y = 46.01953 + 0.002085 X	18	4.222
LP ASO	0.45077	Y = 732.81220 - 0.054078 X	18	-3.844
SP WASH	0.44671	Y = -39.34843 + 0.042549 X	19	3.917
CP PUGET	0.44468	Y = 36.82060 - 0.003538 X	19	-3.901
PP PEN	0.43824	Y = 70.50930 - 0.010303 X	18	-3.747
DB NPFC	0.39328	Y = 3.51276 + 0.001633 X	18	3.416
SP OAK	0.37349	Y = 187.13260 - 0.018918 X	19	-3.366
SP PUGET	0.35975	Y = 101.70830 + 0.006266 X	19	3.267
CP NRFC	0.32812	Y = · 53.75281 + 0.001057 X	19	3.046
SP SPCC	0.32291	Y = 202.91920 + 0.015701 X	19	3.010
PP PUGET	0.30541	Y = 16.47531 + 0.007620 X	19	2.890
FR NPFC	0.30222	Y = 21.43441 + 0.000609 X	19	2.869
SM NORVA	0.29768	Y = 9.08758 + 0.000034 X	19	2.838
CP NPFC	0.29379	Y = 14.64710 + 0.001391 X	18	2.736

Cost Center	R^2	Regression Function	d.f.	t Value
MA SAN	0.27416	Y = 24.21872 + 0.000066 X	19	2.679
PD PEN	0.25587	Y = 302.34000 + 0.005016 X	19	2.556
MA NPFC	0.22699	Y = 12.76058 + 0.000076 X	19	2.362
LP WASH	0.22241	Y = 142.24060 + 0.096538 X	18	2.269
PD PUGET	0.19861	Y = 398.05510 + 0.005103 X	19	2.170
SM JAX	0.19691	Y = 24.71584 + 0.000028 X	19	2.158
MA ASO	0.19557	Y = 148.68390 + 0.000120 X	19	2.149
AH SAN	0.17641	Y = 54.08285 + 0.003735 X	19	2.017
SM SAN	0.15983	Y = 321.56900 - 0.000214 X	18	-1.850
FO PUGET	0.15559	Y = 47.28042 + 0.012956 X	19	1.873
LP PUGET	0.14982	Y = 102.59450 + 0.054145 X	19	1.830
SP SAN	0.14558	Y = 147.56970 + 0.004101 X	19	1.799
DB OAK	0.11446	Y = 140.39510 + 0.000345 X	19	1.567
LP NAP	0.11375	Y = 146.63140 + 0.092271 X	19	1.562
SP JAX	0.10953	Y = 59.26986 + 0.008961 X	19	1.529
LP PEN	0.10908	Y = 18.25461 + 0.067125 X	18	1.485
PD CHASN	0.10789	Y = 668.20060 + 0.004756 X	19	1.516
AT NMTO	0.10775	Y = 72.78447 + 0.000639 X	19	1.515
CP GLAKE	0.10688	Y = 40.30290 + 0.000480 X	19	1.508
FR CHASN	0.10151	Y = 69.33126 + 0.000234 X	19	1.465
CP NORVA	0.09547	Y = 137.23550 - 0.001045 X	18	-1.378
SP PEN	0.09505	Y = -6.12222 + 0.018087 X	19	1.413
CP CHASN	0.09343	Y = 19.61875 + 0.000812 X	19	1.399
FO NORVA	0.08967	Y = 118.02050 + 0.012195 X	19	1.368
SP CHASN	0.08566	Y = 180.14910 + 0.002609 X	19	1.334
CP SAN	0.08033	Y = 63.93225 + 0.000161 X	19	1.288
LP PEARL	0.07370	Y = 79.36882 + 0.033742 X	19	1.230
IC ASO	0.07020	Y = -15639.99 + 0.417973 X	19	1.198
DB ASO	0.06928	Y = 9.67567 + 0.000950 X	19	1.189
FO SAN	0.06833	Y = 47.36470 + 0.001883 X	19	1.180
PR SPCC	0.06311	Y = 100.33780 - 0.000134 X	19	-1.131
PP PEARL	0.06037	Y = 104.22270 + 0.004491 X	19	1.105
MA OAK	0.05990	Y = 45.52344 + 0.000153 X	19	1.100
FO CHASN	0.05907	Y = 22.16655 + 0.013761 X	19	1.092
CP SPCC	0.05634	Y = 34.55485 - 0.000514 X	19	-1.065
PP CHASN	0.04565	Y = 39.81456 + 0.001440 X	19	0.953
MA SPCC	0.04485	Y = 284.93920 + 0.000080 X	19	0.945
SM PEARL	0.04361	Y = 83.09614 - 0.000168 X	17	-0.880
AH NORVA	0.04354	Y = -18.80049 + 0.007579 X	17	0.880
LP PHIL	0.04314	Y = 267.55770 + 0.033334 X	19	0.925
PP SAN	0.04028	Y = 82.43392 + 0.002381 X	19	0.893
IF ASO	0.03753	Y = 513.76390 - 0.006060 X	18	-0.838
FR NRFC	0.03377	Y = 477.59830 - 0.000269 X	19	-0.815
IC SPCC	0.03093	Y = -5482.475 + 0.106106 X	19	0.779
FO OAK	0.02994	Y = 51.33398 - 0.001206 X	19	-0.766
PP NORVA	0.02758	Y = 191.16260 - 0.011251 X	16	-0.674
IF SPCC	0.02753	Y = 834.80770 + 0.000616 X	19	0.733
LP JAX	0.02452	Y = 69.81556 + 0.019422 X	19	0.691

Cost Center	R^2	Regression Function	d.f.	t Value
LP NORVA	0.02171	Y = 198.58670 + 0.033110 X	19	0.649
SM OAK	0.02149	Y = 13.27740 + 0.000051 X	19	0.646
LP SPCC	0.02146	Y = 598.77320 + 0.023471 X	19	0.646
AP ASO	0.01962	Y = 219.18700 − 0.084564 X	19	-0.617
SM PUGET	0.01860	Y = 41.90538 − 0.000211 X	18	-0.584
CP OAK	0.01810	Y = 64.36417 + 0.000232 X	19	0.592
MA JAX	0.01560	Y = 23.59558 − 0.000039 X	19	-0.549
SP NORVA	0.01506	Y = 204.22900 + 0.002930 X	19	0.539
CD GLAKE	0.01485	Y = 30.89670 + 0.000125 X	14	0.459
MA NORVA	0.01301	Y = 56.60377 + 0.000036 X	19	0.500
MA CHASN	0.01235	Y = 30.62419 − 0.000030 X	19	-0.487
MA PUGET	0.01007	Y = 20.02321 + 0.000006 X	19	0.440
DB SAN	0.01002	Y = 9.72129 + 0.000058 X	19	0.439
FO PEARL	0.00755	Y = 156.76960 − 0.002574 X	19	-0.380
DB NRFC	0.00582	Y = 236.63520 + 0.000040 X	19	0.333
SP ASO	0.00464	Y = 96.96858 + 0.004063 X	18	0.290
SP NAP	0.00403	Y = 31.07440 − 0.000919 X	19	-0.277
PD SAN	0.00332	Y = 1535.9540 + 0.000842 X	19	0.251
PD JAX	0.00155	Y = 674.15160 + 0.001050 X	19	0.172
PP JAX	0.00129	Y = 63.40507 + 0.001414 X	19	0.157
MA PEARL	0.00117	Y = 25.14420 + 0.000010 X	19	0.149
SP PEARL	0.00083	Y = 74.31902 − 0.000210 X	19	-0.125
AP SPCC	0.00059	Y = 205.04920 + 0.000486 X	19	0.105
PD PEARL	0.00044	Y = 512.68220 + 0.000274 X	19	0.092
SM CHASN	0.00035	Y = 22.11043 + 0.000011 X	18	0.079
FO JAX	0.00021	Y = 78.94329 + 0.000681 X	19	0.062
LP OAK	0.00007	Y = 46.98493 + 0.001743 X	18	0.035
LP CHASN	0.00007	Y = 197.03040 + 0.000789 X	19	0.035
LP SDCC	0.00004	Y = 365.87070 + 0.000726 X	18	0.027
SP PHIL	0.00000	Y = 17.39558 + 0.000033 X	19	0.008
FR OAK	0.00000	Y = 169.95310 + 0.000001 X	19	0.005
PD NORVA	0.00000	Y = 3607.5190 − 0.000061 X	18	-0.004
PP OAK	0.00000	Y = 109.11520 − 0.000004 X	19	-0.001

As Table 1 shows, only eight of the 103 cost centers have a R^2 that is greater than 0.5. The lack of a good fit for most of the remaining 95 cost centers is reinforced through the analysis of the slope using the hypothesis test described above. That test indicates that only 29 cost centers in Table 1 have a slope not zero at 5 percent significance. Table 2 lists these 29 cost centers by activity.

TABLE 2. COST CENTERS FROM TABLE 1 HAVING $\beta_1 \neq 0$

Activity	Cost centers					
ASO	LP	MA				
CHASN	DB					
GLAKE	DB	FR				
JAX	SM					
NORVA	DB	SM				
NPFC	CP	DB	FR	IC	MA	PD
NRFC	CP					
OAK	SP					
PEN	FO	PD	PP	SM		
PUGET	CP	PD	PP	SP		
SAN	MA					
SPCC	DB	SP				
WASH	LP	SP				

The activity labeled NPFC (Naval Publications and Forms Center) has six cost centers, all of which have significant regression results. This is quite an accomplishment considering that the six cost centers represent the entire set of its cost centers. All cost centers of the activity labeled WASH (Naval Regional Finance Center Washington D.C) also have significant regressors.

IV ADDITIONAL ANALYSIS

Since the regression formulas in Table 1 appear to be of very little help to NAVSUP in connecting budgets and outputs it was decided to look at the possibility of seasonal variations.

A. Seasonal Correction

When using data that is reported in a sequential time pattern, a seasonal variation in demand or usage is not uncommon. These seasonal usage patterns are usually identified through a typical recurring period of high and low usage. Since the data supplied meets the requirements to be a time series it was decided to attempt the regression analysis with deseasonalized data.

The deseasonalization of the data was accomplished by using the fiscal year 90 data for determining the seasonal indexes, then running the regression analysis on the deseasonalized fiscal year 91 data. The computations of the seasonal indexes were accomplished using the following procedure: for each cost center the work units from the months of October 1989 through September 1990 were averaged. Each monthly work unit was then divided by this average value. The result of this division is the monthly seasonal index. Each month's units and dollars for fiscal year 91 were then divided

by the corresponding monthly index figure. The results are deseasonalized values of units and dollars [Ref 6: pp. 60-62] Table 3 illustrates the steps of the process for Naval Supply Center Charleston's CP cost center.

TABLE 3. CALCULATION OF SEASONALITY INDICES AND DESEASONALIZED DATA

Cost center CP

CHASN Month	Units	Dollars	Monthly Seasonal Index (Units/9360.75)
OCT89	9144	33	0.97684480
NOV89	8702	24	0.929626s36
DEC89	13073	23	1.39657612
JAN90	8788	23	0.93881366
FEB90	8587	31	0.91734102
MAR90	8539	24	0.91221323
APR90	8510	34	0.90911518
MAY90	8520	22	0.91018347
JUN90	12783	23	1.36559570
JUL90	8555	21	0.91392249
AUG90	8562	21	0.91467029
SEP90	8566	22	0.91509761
Average Units	9360.75		

Month	Units	Dollars	Deseasonalized Units (Units/Index)	Dollars (Dollars/Index)
OCT90	8528	35	8730.1483	35.8296
NOV90	8570	21	9218.7575	22.5897
DEC90	12699	19	9092.9522	13.6047
JAN91	8452	38	9002.8515	40.4766
FEB91	8523	24	9290.9831	26.1626
MAR91	8550	29	9372.8086	31.7908
APR91	8430	33	9272.7524	36.2990
MAY91	10635	35	11684.4573	38.4538
JUN91	19023	44	13930.1844	32.2204

B. Analysis of Seasonal Data

The fiscal year 91 deseasonalized data was then used for a regression analysis which is summarized below in Table 4. The table is arranged identically to that of Table 1.

Appendix D contains the seasonality indices and regression analyses for the first 50 cost centers listed in Table 4. The other cost centers showed virtually no seasonality effect, as their indices for all months were very close to 1.0 and therefore have very little affect on the data.

TABLE 4. SUMMARY OF THE REGRESSION ANALYSIS OF DESEASONALIZED DATA.

Cost Center		R^2		Regression Function	d.f.	t Value
FR	NPFC	0.98032	Y =	-5.0979800 + 0.000857100 X	6	17.289
LP	ASO	0.96709	Y =	-475.7770000 + 0.528902250 X	6	13.278
LP	PEARL	0.96523	Y =	43.8160951 + 0.526302708 X	7	13.940
CP	NRFC	0.94962	Y =	-5.2344797 + 0.001915972 X	7	11.487
IC	NPFC	0.91885	Y =	-20.1099000 + 0.012174630 X	6	8.242
LP	OAK	0.91302	Y =	8.3267767 + 0.854514349 X	6	7.936
SP	OAK	0.87313	Y =	24.4882537 + 0.020690362 X	6	6.426
LP	NAP	0.85402	Y =	75.1737836 + 0.359555343 X	7	6.399
FO	SAN	0.85286	Y =	8.7294060 + 0.013686301 X	7	6.370
FR	GLAKE	0.84938	Y =	-14.9398537 + 0.000636071 X	6	5.817
SP	PEN	0.84630	Y =	18.5141855 + 0.009767693 X	6	5.748
PD	NPFC	0.77613	Y =	52.7801500 + 0.002211850 X	6	4.561
MA	NPFC	0.74597	Y =	4.8292550 + 0.000672650 X	6	4.197
FR	CHASN	0.73941	Y =	10.9007461 + 0.000663623 X	7	4.457
LP	WASH	0.72933	Y =	58.1427937 + 0.258685361 X	6	4.021
CP	NPFC	0.70860	Y =	-9.5888600 + 0.002858470 X	6	3.820
LP	PHIL	0.69556	Y =	115.8123834 + 0.159174121 X	7	3.999
SP	NAP	0.64435	Y =	7.7423997 + 0.015428637 X	7	3.561
DB	GLAKE	0.63460	Y =	-5.0525175 + 0.000971976 X	6	3.228
LP	PEN	0.61691	Y =	-5.2193308 + 0.702823883 X	6	3.108
SM	JAX	0.59939	Y =	-29.3974850 + 0.000078411 X	7	3.236
SM	OAK	0.58684	Y =	11.4567290 + 0.000062616 X	7	3.153
FR	OAK	0.57809	Y =	105.5962277 + 0.000674148 X	7	3.097
AP	ASO	0.56978	Y =	99.7871400 + 0.486767190 X	7	3.045
SP	NORVA	0.54787	Y =	-395.3611260 + 0.040617058 X	7	2.912
PD	CHASN	0.53708	Y =	-257.2284528 + 0.014736880 X	7	2.850
MA	JAX	0.48376	Y =	4.7162941 + 0.000207093 X	7	2.561
CD	GLAKE	0.47905	Y =	-22.7933531 + 0.001480610 X	2	1.356
IC	SPCC	0.47748	Y =	-37245.983874 + 0.599677727 X	7	2.529
DB	ASO	0.47498	Y =	4.7048620 + 0.001439860 X	7	2.517
DB	NPFC	0.45781	Y =	2.3158470 + 0.001505190 X	6	2.251
MA	OAK	0.44083	Y =	18.7171915 + 0.000806580 X	7	2.349
AH	SAN	0.42472	Y =	-54.3827533 + 0.009029515 X	7	2.273
AP	SPCC	0.42276	Y =	-141.8507935 + 0.022951935 X	7	2.264

Cost Center	R^2		Regression Function		d.f.	t Value
SM NORVA	0.41271	Y =	-64.5947597 + 0.000075983	X	6	2.053
MA CHASN	0.40864	Y =	13.1384559 + 0.000139177	X	7	2.199
IF SPCC	0.39874	Y =	505.1451676 + 0.005782587	X	7	2.155
PP PUGET	0.37817	Y =	-5.7086389 + 0.022850076	X	7	2.063
PD PEN	0.37024	Y =	310.3838897 + 0.004956185	X	6	1.878
PP JAX	0.36223	Y =	230.6541811 - 0.055813490	X	7	-1.994
FO NORVA	0.33407	Y =	-20.2606812 + 0.039631086	X	6	1.735
DB OAK	0.33232	Y =	-5.1443071 + 0.001598058	X	7	1.867
PD PUGET	0.32054	Y =	373.4145457 + 0.006006246	X	7	1.817
DB NORVA	0.26672	Y =	-3.6518182 + 0.001224470	X	6	1.477
PP PEN	0.26498	Y =	21.0235568 + 0.012311484	X	6	1.471
AH NORVA	0.25777	Y =	-479.9478563 + 0.022162895	X	6	1.444
PP CHASN	0.25549	Y =	22.6113788 + 0.009455151	X	7	1.550
FO JAX	0.25209	Y =	218.2955895 - 0.053738762	X	7	-1.536
SP JAX	0.25043	Y =	46.6518093 + 0.011038105	X	7	1.529
PD NORVA	0.24093	Y =	-8794.0408675 + 0.049611436	X	6	1.380
LP NORVA	0.23597	Y =	81.5107619 + 0.243603663	X	7	1.470
SP CHASN	0.23522	Y =	110.2467071 + 0.008744698	X	7	1.467
SP PUGET	0.23351	Y =	272.7878084 - 0.006921826	X	7	-1.460
IC ASO	0.22168	Y =	-33251.900000 + 0.847284740	X	7	1.412
SM PEN	0.22095	Y =	16.1102218 + 0.000022469	X	6	1.304
DB NRFC	0.22072	Y =	364.7596121 - 0.000833544	X	7	-1.408
FO OAK	0.20390	Y =	25.6533187 + 0.014092711	X	7	1.339
CP SAN	0.18081	Y =	48.7360454 + 0.000527993	X	7	1.243
MA SAN	0.17564	Y =	20.1711748 + 0.000080464	X	7	1.221
MA PUGET	0.17413	Y =	8.8257319 + 0.000124119	X	7	1.215
AT NMTO	0.16751	Y =	72.4320075 + 0.000772737	X	7	1.187
LP JAX	0.16409	Y =	64.3021489 + 0.079559477	X	6	1.085
MA PEARL	0.16174	Y =	11.2801063 + 0.000196256	X	7	1.162
FO PUGET	0.15810	Y =	42.0235036 + 0.027876931	X	7	1.147
DB CHASN	0.13975	Y =	40.0973241 + 0.001446190	X	7	1.066
LP SPCC	0.12462	Y =	580.8908676 + 0.134743475	X	7	0.998
SM PEARL	0.12372	Y =	145.9174651 - 0.000348609	X	7	-0.994
LP CHASN	0.11321	Y =	202.1481860 + 0.136230929	X	7	0.945
FO PEN	0.11156	Y =	11.3259517 + 0.010116732	X	6	0.868
PD JAX	0.10976	Y =	1180.7702367 - 0.008334354	X	7	-0.929
PP SAN	0.09257	Y =	137.5606901 - 0.006181586	X	7	-0.845
SP SPCC	0.07575	Y =	185.5244926 + 0.023524125	X	7	0.757
LP PUGET	0.06909	Y =	118.1350711 + 0.052029712	X	7	0.721
SM PUGET	0.06109	Y =	59.4564148 - 0.000329804	X	6	-0.625
PP OAK	0.05936	Y =	127.7200616 - 0.004038992	X	7	-0.665
FR NRFC	0.05611	Y =	70.4162497 + 0.000625695	X	7	0.645
CP PUGET	0.04475	Y =	15.5884789 + 0.000580288	X	6	0.530
IF ASO	0.04344	Y =	836.5289000 + 0.007016400	X	6	0.522
PR SPCC	0.04329	Y =	85.3420524 + 0.000123322	X	7	0.563
CP CHASN	0.03786	Y =	21.1230242 + 0.000974599	X	7	0.525
CP SPCC	0.03593	Y =	36.1666759 - 0.000440019	X	7	-0.511
SP PEARL	0.03301	Y =	71.1719121 + 0.001383949	X	7	0.489

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Cost Center		R^2	Regression Function	d.f.	t Value
PP	NORVA	0.03204	Y = 328.9599497 - 0.031877067 X	5	-0.407
MA	NORVA	0.02990	Y = -5.4440850 + 0.000212963 X	6	0.430
SM	CHASN	0.02895	Y = 64.5238850 - 0.000069651 X	6	-0.423
SP	ASO	0.02464	Y = 90.4041100 + 0.003270740 X	6	0.389
PD	PEARL	0.02210	Y = 380.7764288 + 0.003251381 X	7	0.398
PD	SAN	0.02205	Y = 1311.2660156 + 0.002473692 X	7	0.397
SM	SAN	0.01365	Y = 251.2818222 - 0.000110794 X	6	-0.288
MA	ASO	0.01119	Y = 231.9894000 + 0.000017660 X	7	0.281
DB	SPCC	0.00859	Y = 11.7278372 + 0.000623305 X	7	0.246
DB	SAN	0.00780	Y = 11.4834057 - 0.000172800 X	7	-0.235
CP	OAK	0.00330	Y = 60.5095053 + 0.000463069 X	7	0.152
CP	GLAKE	0.00229	Y = 54.7104703 + 0.000039238 X	6	0.117
SP	SAN	0.00210	Y = 193.5570276 + 0.000522140 X	7	0.121
SP	WASH	0.00190	Y = 36.7897124 + 0.000899387 X	6	0.107
CP	NORVA	0.00148	Y = 70.6843989 + 0.000339422 X	6	0.094
PP	PEARL	0.00092	Y = 128.2463738 + 0.001523531 X	7	0.080
MA	SPCC	0.00051	Y = 343.3797721 + 0.000018014 X	7	0.060
SP	PHIL	0.00005	Y = 14.5744206 + 0.000076326 X	7	0.018
FO	CHASN	0.00002	Y = 32.8978236 + 0.000237978 X	7	0.012
FO	PEARL	0.00001	Y = 153.9273780 - 0.000192951 X	7	-0.008
LP	SDCC	0.00000	Y = 418.2272986 + 0.000268771 X	6	0.001

As Table 4 shows, the number of cost centers with a R^2 greater than 0.5 has increased from the eight in Table 1 to 26 in Table 4. This appears to be good news. There is further good news. With only a partial year of data available to compute the regression function and the degrees of freedom for the hypothesis test for the slope being reduced as a consequence, 29 cost centers can still reject the hypothesis that the slope is zero. These 29 cost centers are listed in Table 5 by activity.

TABLE 5. COST CENTERS FROM TABLE 4 HAVING $\beta_1 \neq 0$

Activity	Cost center				
ASO	AP	DB	LP		
CHASN	FR	PD			
GLAKE	DB	FR			
JAX	MA	SM			
NAP	LP	SP			
NORVA	SP				
NPFC	CP	FR	IC	PD	MA
NRFC	CP				
OAK	FR	LP	SP	SM	
PEARL	LP				
PEN	LP	SP			
PHIL	LP				
SAN	FO				
SPCC	IC				
WASH	LP				

Table 5, like that of Table 2, shows that the activity labeled NPFC is still the most "efficient" with regards to regression functions.

C. Regression analyses on the last nine months of data ignoring seasonality

Since the regression analyses in the preceding section used only the fiscal year 91 data, there was the possibility that the raw unseasonalized data from fiscal year 91 would also result in a significant improvement from the analysis of the entire 21 months. It could have been possible that the cost centers could, after one year of reporting the required information, have improved their tracking of outputs and the costs required to create them. The regression analyses of 50 of the cost centers are presented in Appendix D along with the

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associated seasonalized analyses. Just using the fiscal year 91 data did increase the number of R^2 values greater than 0.5 from eight in Table 1 to twelve, but only ten of these cost centers were able to reject the null hypothesis that the slope coefficient β_1 is zero.

D. Implications of Deseasonalization of Data

Comparing Tables 1 and 5 suggests that some of the cost centers benefit more from the deseasonalization than others. For example, the SP, LP, and FR cost centers appear to benefit from considering seasonality effects. Cost center DB is better without the deseasonalizaton. Those cost centers whose seasonality indices all hover close to 1.0 will, of course, show little benefits from considering seasonality as it was computed in this thesis.

E. Reseasonalization of Data

To make correct use of the regression functions for deseasonalized data the following procedures must be followed.

1. The projected work units must be divided by the appropriate monthly seasonal index.

2. The forecasted deseasonalized costs associated with these work units are obtained from the appropriate cost center regression function.

3. The resulting costs from step 2 must then be multiplied by the monthly seasonal index to obtain the estimated costs of producing the projected units used in step 1.

The seasonality indices should also be updated after each subsequent year´s historical data has been added to the data

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base. The update is accomplished by the adding each month's output value to the previous year's values to get monthly averages and an annual average of the number of complete past years.

There are several ways to compute seasonal indexes with more than two years of data. The type chosen should be one that the user is comfortable with. Most management science text books include at least one method of computing seasonal indices. (See, for example, Reference 6.)

F. Potential Problems

Potential serious problems from using the results of these analyses are possible. The sample size is rather small for gaining much benefits from regression analysis. In addition, seasonality indices generated with only one years's worth of data are suspect. More months worth of data are necessary to feel confident about regression analysis results. How much data is necessary depends, of course, on several things. One is the urgency to get some sort of forecast for the dollars needed. Another is the sense of importance that the cost center attaches to keeping accurate records of outputs and expenditures associated with them. Both should be motivated by shrinking of future budgets. Finally, the model used in the analyses above was a·simple linear relationship between outputs and dollars. That may, in fact, be an incorrect assumption. Higher order models may be much more appropriate.

These other models since they are not linear were not investigated or considered.   An understanding of what each cost center does, and how the work units and outputs are computed will also be necessary to refine the model.

V SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A. Summary

This thesis concerned itself with regression analysis of data furnished by NAVSUP. The analyses of the data resulted in very limited success. Without any manipulation of the data, only eight of the 103 cost centers having sufficient data to be analyzed exhibited results that, at the 5 percent significance level, showed the dollars expended to be linearly related to the work units produced.

Applying seasonal indices, while producing improved results in the sense of R^2, still failed to produce any larger number of cost centers able to reject the hypothesis that the slope is zero. These larger R^2 values do suggest that consideration of seasonality effects has merits. When a larger number of months are available one may be able to determine which cost centers are in fact really subject to the effects of seasonalized demands for their outputs.

There was one activity (Naval Publications and Forms Center) whose data consistently met the requirements set up in this thesis for significant analysis. This activity's reporting methods and quality control of the reporting methods appear to be better than the other activities. Of course their requirements may also be less demanding to fulfill than

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the other activities. An examination of each cost centers'
unit output is necessary to make a better judgement on this
matter.

B. Conclusions

It is apparent from the analyses that a simple linear
regression model does not predict with much confidence the
amount of money it will cost to produce a certain number of
units of output. As Tables 1 and 4 show, the R^2 values are
less than 0.5 for almost 75 percent of the cost centers.
Those cost centers with an R^2 of less than 0.5 have less than
50 percent of the dollars spent explained by the units of
output with respect to the least squares model.

The application of seasonality indices to the cost center
data does appear to contribute significantly to an increase in
the number of cost centers having a higher R^2. However, only
the last nine months of data can then be used.

C. Recommendations

1. It is recommended that data continue to be collected
and regression analyses applied. Hopefully, as the amount of
data grows, a linear or nonlinear function should start to
become evident for forecasting the dollars needed to create
the demanded outputs.

2. It should come as no surprise that some of the cost
centers considered are affected by the influence of seasonal

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changes in their demand pattern. These cost centers should be further evaluated to determine the extent of this influence.

3. It is recommended that the cost centers pay closer attention to record keeping, both of outputs and the expenditures that create them.

4. Since there is yet no good simple linear fit for many of the cost centers, a search should be conducted for the possibility of either a hidden regressor that is keeping the units from accurately predicting dollars spent or a function that better represents the relationship between output and input.

5. The one activity for which the linear regression seems to give good results from both the unseasonalized and the seasonalized analyses is Naval Publications and Forms Center. All of its cost centers appear to have sufficient data available to provide a reasonably accurate linear regression forecasting function. This suggests that the activity has developed the necessary skills to report accurately its units and costs. This possibility should be investigated and, if found to be true, the activity should be contacted and asked to share their skills with the other activities in NAVSUP.

6. A final thought concerns the Department of Defense guidance. This guidance is quickly changing and becoming more demanding regarding the use of resourced units. This new emphasis will continue to create considerable turbulence throughout the Department of Defense. NAVSUP should review

their PURS system to determine if the output units and costs
calculations currently being used are really valid.

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APPENDIX A

This appendix is a glossary for acronyms used in the body. It also lists the activities full names, and the cost centers with a short definition of the measurement of work that constitutes the Units for each cost center as defined by NAVSUPINST 7000.21A.

A. Glossary

Activity: A physical command, that has several cost centers.

ATAC: Advanced Traceability and Control

β_0: Y axis intercept of the regression function.

β_1: Slope of the regression function.

COSAL: Coordinated Shipboard Allowance List.

Cost Center: A part of the activity that has a specific productive unit function associated with it.

DoD: Department of Defense.

ESS: Error sum of squared deviations.

FMSO: Fleet Material Support Office

ICP: Inventory Control Point

M-BARRELS: 42,000 gallons.

NAVSUP: Naval Supply Systems command.

NMTO: Naval Material Transportation Office

NRCC: Naval Regional Contracting Center.

NRFC: Naval Regional Fiance Center.

NSC: Naval Supply Center.

PPR: Planned Program Requirements.

PUR: Productive unit resourcing.

PURS: Productive unit resourcing system.

RSS: Regression sum of squared deviations.

R^2: Coefficient of determination, an indication of the explanatory power of the regression model.

TSS: Total sum of squared deviations.

X: Independent variable in regression formula.

Y: Dependent variable in regression formula.

B. Activities

ASO: Aviation Supply Office

CHASN: NSC Charleston

GLAKE: NRFC Great Lakes

JAX: NSC Jacksonville

NAP: NRCC Naples

NMTO: Navy Material and Transportation Office

NORVA: NSC Norfolk

NPFC: Naval Publicatons and Forms Center

NRCC: Naval Regional Finance Center

OAK: NSC Oakland

PEARL: NSC Pearl Harbor

PEN: NSC Pensacola

PHIL: NRCC Philadelphia

PUGET: NSC Puget Sound

SAN: NSC San Diego

SDCC: NRCC San Diego

SPCC: Ships Parts and Control Center

WASH: NRFC Washington D. C.

C. Cost Center Codes

<u>Code</u>   <u>Name & definition of Units</u>

AH   ATAC Hub; used by NSC Norfolk and San Diego
             Productive Unit: Line item receipts.

AP   Allowance Products; used by ICP
             Productive Unit: Allowance documents prepared.

AT   Air Terminal; used by NMTO
             Productive Unit: Undefined by NAVSUPINST 7000.21A.

CD   Cross Disbursing; used by NRFC Glakes
             Productive Unit: Undefined by NAVSUPINST 7000.21A.

CO   COSAL Outfitting; used by NSCs
             Productive Unit: Undefined by NAVSUPINST 7000.21A,
             unused in analyses due to insufficient data for any
             cost center.

CP   Civilian Payroll; used by NSC, ICP, NRFC
             Productive Unit: Graded/ungraded pay accounts.

DB   Disbursing; used by NSC, NRFC
             Productive Unit: Checks issued, invoices processed.

DP   Data Processing; used by ALL
             Productive Unit: Review of cost, unused in analyses
             due to insufficient data for any cost center.

FO   Fuel Ops; used by NSC
             Productive Unit: M-Barrels pumped/operations.

FR   Fund Resource Accounting; used by NSC, ICP, NRFC
             Productive Unit: Transactions posted.

FS   Fleet Support; used by FMSO
             Productive Unit: Undefined by NAVSUPINST 7000.21A,
             unused in analyses due to insufficient data for any
             cost center.

Code	Name & definition of Units

GA   General & Administrative; used by ALL
Productive Unit: Percent of productive resources, unused in analyses due to insufficient data for any cost center.

IC   Inventory Control; used by ICP
Productive Unit: Line items managed.

IF   Provisioning; used by ICP
Productive Unit: Line items reviewed.

LP   Large Purchase; used by NSC, ICP, NRCC
Productive Unit: Contract action, (weighted) purchase action.

MA   Material Accounting; used by NSC, ICP
Productive Unit: Transactions posted.

OF   Outfitting Support; used by NSC
Productive Unit: Undefined by NAVSUPINST 7000.21A, unused in analyses due to insufficient data for any cost center.

PD   Physical Distribution; used by NSC
Productive Unit: Movement units.

PP   Personal Property; used by NSC
Productive Unit: Transactions (weighted).

PR   Program Requirement; used by ICP
Productive Unit: PPRs generated.

QT   QEALT; used by ICP
Productive Unit: Undefined by NAVSUPINST 7000.21A, unused in analyses due to insufficient data for any cost center.

RP   Maint Real Prop; used by ALL
Productive Unit: Undefined by NAVSUPINST 7000.21A, unused in analyses due to insufficient data for any cost center.

SM   SERVMART; used by NSC
Productive Unit: Undefined by NAVSUPINST 7000.21A.

SP   Small Purchase; used by NSC, ICP, NRCC
Productive Unit: Contract action, (weighted) purchase action.

APPENDIX B

The following is a listing of all the data furnished by NAVSUP. The data is shown in the final format after its conversion for analysis. It is arranged in alphabetical order by activity and cost center. The cost centers that have mostly zeros or -- (representing a blank) for entries were not considered for analysis.

A. AVIATION SUPPLY OFFICE

Cost Center AP			Cost Center DB		
ASO	Units	Dollars	ASO	Units	Dollars
OCT89	207	225	OCT89	3918	17
NOV89	70	231	NOV89	6718	22
DEC89	111	170	DEC89	5764	20
JAN90	352	220	JAN90	6048	24
FEB90	326	187	FEB90	5824	16
MAR90	177	281	MAR90	6306	20
APR90	257	249	APR90	5926	12
MAY90	192	209	MAY90	8104	16
JUN90	100	247	JUN90	8310	16
JUL90	196	214	JUL90	7440	17
AUG90	327	225	AUG90	7896	15
SEP90	227	79	SEP90	6394	16
OCT90	261	227	OCT90	7690	14
NOV90	279	209	NOV90	6734	23
DEC90	193	203	DEC90	4114	10
JAN91	247	191	JAN91	6208	11
FEB91	96	191	FEB91	4538	7
MAR91	168	198	MAR91	6150	9
APR91	225	211	APR91	5374	13
MAY91	116	193	MAY91	4330	17
JUN91	283	70	JUN91	5528	11

Cost Center DP				Cost Center GA		
ASO	Units	Dollars		ASO	Units	Dollars
OCT89	--	2114		OCT89	--	4328
NOV89	--	781		NOV89	--	3394
DEC89	--	594		DEC89	--	2513
JAN90	--	598		JAN90	--	3510
FEB90	--	661		FEB90	--	2722
MAR90	--	688		MAR90	--	2512
APR90	--	959		APR90	--	2586
MAY90	--	612		MAY90	--	2278
JUN90	--	568		JUN90	--	850
JUL90	--	753		JUL90	--	2390
AUG90	--	697		AUG90	--	1669
SEP90	--	688		SEP90	--	2911
OCT90	0	1799		OCT90	0	3479
NOV90	0	1094		NOV90	0	2258
DEC90	0	617		DEC90	0	2465
JAN91	0	716		JAN91	0	3264
FEB91	0	833		FEB91	0	2239
MAR91	0	-78		MAR91	0	1314
APR91	0	1233		APR91	0	3364
MAY91	0	615		MAY91	0	1519
JUN91	0	-92		JUN91	0	-162

Cost Center IC				Cost Center IF		
ASO	Units	Dollars		ASO	Units	Dollars
OCT89	42378	2057		OCT89	2875	367
NOV89	42239	1749		NOV89	6291	350
DEC89	42185	1097		DEC89	9414	161
JAN90	42199	1300		JAN90	10210	132
FEB90	42126	1576		FEB90	4748	342
MAR90	42196	2138		MAR90	8922	457
APR90	42268	2052		APR90	5424	323
MAY90	42126	2120		MAY90	6370	417
JUN90	42002	1740		JUN90	4562	408
JUL90	42096	1812		JUL90	4926	370
AUG90	42287	1862		AUG90	6104	381
SEP90	42392	2112		SEP90	31437	124
OCT90	42428	1865		OCT90	5679	444
NOV90	41736	1896		NOV90	2700	715
DEC90	41837	1090		DEC90	18948	668
JAN91	40588	1392		JAN91	11749	589
FEB91	40483	1323		FEB91	17286	625
MAR91	40885	1645		MAR91	8281	779
APR91	41925	1788		APR91	5075	656
MAY91	42416	1586		MAY91	5942	895
JUN91	42278	5624		JUN91	6121	-3455

Cost Center LP				Cost Center MA		
ASO	Units	Dollars		ASO	Units	Dollars
OCT89	0	575		OCT89	660749	252
NOV89	160	611		NOV89	736268	253
DEC89	258	479		DEC89	506261	129
JAN90	2024	617		JAN90	698160	176
FEB90	3414	645		FEB90	838786	226
MAR90	1895	729		MAR90	793356	281
APR90	1599	646		APR90	740368	259
MAY90	2270	664		MAY90	904476	293
JUN90	2608	595		JUN90	658112	254
JUL90	4575	482		JUL90	764571	251
AUG90	3468	612		AUG90	683870	248
SEP90	10255	16		SEP90	665850	219
OCT90	1701	733		OCT90	852553	261
NOV90	1403	705		NOV90	798646	261
DEC90	616	428		DEC90	648259	177
JAN91	2484	750		JAN91	900284	232
FEB91	2168	597		FEB91	1197812	230
MAR91	3142	603		MAR91	775212	275
APR91	1983	847		APR91	977544	282
MAY91	2226	683		MAY91	709155	277
JUN91	1739	511		JUN91	614362	224

Cost Center QT				Cost Center RP		
ASO	Units	Dollars		ASO	Units	Dollars
OCT89	--	--		OCT89	--	--
NOV89	--	--		NOV89	--	--
DEC89	--	--		DEC89	--	--
JAN90	--	--		JAN90	--	--
FEB90	--	--		FEB90	--	--
MAR90	--	--		MAR90	--	--
APR90	--	--		APR90	--	--
MAY90	--	--		MAY90	--	--
JUN90	--	--		JUN90	--	--
JUL90	--	--		JUL90	--	--
AUG90	--	--		AUG90	--	--
SEP90	--	--		SEP90	--	--
OCT90	0	283		OCT90	0	249
NOV90	0	308		NOV90	0	215
DEC90	0	201		DEC90	0	124
JAN91	0	232		JAN91	0	221
FEB91	0	248		FEB91	0	109
MAR91	0	303		MAR91	0	169
APR91	0	275		APR91	0	179
MAY91	0	307		MAY91	0	252
JUN91	0	438		JUN91	0	282

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Cost Center SP
ASO           Units   Dollars
OCT89             0        93
NOV89          3032       111
DEC89          1716        67
JAN90          2142       103
FEB90          4022        91
MAR90          3218       136
APR90          3354       123
MAY90          2728       103
JUN90          3335       108
JUL90          2416        56
AUG90          2861       110
SEP90          2633       232
OCT90          2040       106
NOV90          2713        90
DEC90          2110        65
JAN91          3638        82
FEB91          3612        95
MAR91          2481       138
APR91          2972       110
MAY91          2607       121
JUN91          2145       119
```

B. NSC CHARLESTON

Cost Center CP			Cost Center DB		
CHASN	Units	Dollars	CHASN	Units	Dollars
OCT89	9144	33	OCT89	74723	153
NOV89	8702	24	NOV89	65426	125
DEC89	13073	23	DEC89	60536	124
JAN90	8788	23	JAN90	67305	138
FEB90	8587	31	FEB90	64563	129
MAR90	8539	24	MAR90	71664	147
APR90	8510	34	APR90	66972	131
MAY90	8520	22	MAY90	70637	152
JUN90	12783	23	JUN90	67970	128
JUL90	8555	21	JUL90	66410	141
AUG90	8562	21	AUG90	75737	146
SEP90	8566	22	SEP90	61365	125
OCT90	8528	35	OCT90	73815	156
NOV90	8570	21	NOV90	68357	139
DEC90	12699	19	DEC90	61011	106
JAN91	8452	38	JAN91	65851	140
FEB91	8523	24	FEB91	61812	127
MAR91	8550	29	MAR91	74936	139
APR91	8430	33	APR91	70118	158
MAY91	10635	35	MAY91	69456	146
JUN91	19023	44	JUN91	62692	131

Cost Center DP				Cost Center FO		
CHASN	Units	Dollars		CHASN	Units	Dollars
OCT89	--	403		OCT89	1424	36
NOV89	--	313		NOV89	1049	46
DEC89	--	337		DEC89	791	31
JAN90	--	349		JAN90	1019	29
FEB90	--	366		FEB90	1086	35
MAR90	--	374		MAR90	964	38
APR90	--	530		APR90	907	38
MAY90	--	373		MAY90	1216	51
JUN90	--	614		JUN90	1172	32
JUL90	--	298		JUL90	967	31
AUG90	--	382		AUG90	1031	28
SEP90	--	354		SEP90	1088	58
OCT90	0	517		OCT90	1195	56
NOV90	0	333		NOV90	736	28
DEC90	0	310		DEC90	812	19
JAN91	0	392		JAN91	852	34
FEB91	0	342		FEB91	555	40
MAR91	0	414		MAR91	787	46
APR91	0	496		APR91	1123	36
MAY91	0	390		MAY91	1014	16
JUN91	0	544		JUN91	1032	24

Cost Center FR				Cost Center FS		
CHASN	Units	Dollars		CHASN	Units	Dollars
OCT89	112809	107		OCT89	--	--
NOV89	94303	92		NOV89	--	--
DEC89	151065	78		DEC89	--	--
JAN90	139682	108		JAN90	--	--
FEB90	143820	97		FEB90	--	--
MAR90	149284	109		MAR90	--	--
APR90	155285	106		APR90	--	--
MAY90	154732	114		MAY90	--	--
JUN90	140541	100		JUN90	--	--
JUL90	127563	104		JUL90	--	--
AUG90	166125	115		AUG90	--	--
SEP90	152337	103		SEP90	--	--
OCT90	146761	122		OCT90	0	57
NOV90	141075	91		NOV90	0	55
DEC90	129199	72		DEC90	0	62
JAN91	126695	102		JAN91	0	73
FEB91	127508	93		FEB91	0	74
MAR91	139408	103		MAR91	0	82
APR91	127178	102		APR91	0	86
MAY91	139654	112		MAY91	0	77
JUN91	133356	103		JUN91	0	80

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Cost Center GA				Cost Center LP		
CHASN	Units	Dollars		CHASN	Units	Dollars
OCT89	--	1295		OCT89	1074	183
NOV89	--	383		NOV89	256	188
DEC89	--	892		DEC89	238	156
JAN90	--	1773		JAN90	427	193
FEB90	--	215		FEB90	254	188
MAR90	--	352		MAR90	441	193
APR90	--	1192		APR90	492	193
MAY90	--	349		MAY90	204	199
JUN90	--	524		JUN90	321	194
JUL90	--	641		JUL90	395	179
AUG90	--	521		AUG90	435	220
SEP90	--	211		SEP90	697	154
OCT90	0	450		OCT90	827	247
NOV90	0	501		NOV90	245	217
DEC90	0	503		DEC90	391	186
JAN91	0	815		JAN91	348	204
FEB91	0	266		FEB91	253	205
MAR91	0	282		MAR91	439	227
APR91	0	598		APR91	428	227
MAY91	0	290		MAY91	337	205
JUN91	0	650		JUN91	828	187

Cost Center MA				Cost Center OF		
CHASN	Units	Dollars		CHASN	Units	Dollars
OCT89	104703	17		OCT89	--	--
NOV89	161031	19		NOV89	--	--
DEC89	140892	18		DEC89	--	--
JAN90	156666	24		JAN90	--	--
FEB90	160490	25		FEB90	--	--
MAR90	170137	27		MAR90	--	--
APR90	137904	30		APR90	--	--
MAY90	135626	26		MAY90	--	--
JUN90	163249	23		JUN90	--	--
JUL90	144968	24		JUL90	--	--
AUG90	127536	26		AUG90	--	--
SEP90	127613	26		SEP90	--	--
OCT90	150571	30		OCT90	0	30
NOV90	148897	27		NOV90	0	28
DEC90	93443	19		DEC90	0	19
JAN91	93075	27		JAN91	0	26
FEB91	124149	24		FEB91	0	25
MAR91	116107	36		MAR91	0	28
APR91	109441	36		APR91	0	32
MAY91	131852	35		MAY91	0	38
JUN91	127263	39		JUN91	0	26

Cost Center PD			Cost Center PP		
CHASN	Units	Dollars	CHASN	Units	Dollars
OCT89	95769	1164	OCT89	5740	48
NOV89	125926	1111	NOV89	2444	43
DEC89	97877	898	DEC89	2018	35
JAN90	137768	1582	JAN90	2298	45
FEB90	120999	1024	FEB90	2150	43
MAR90	114573	1009	MAR90	2455	46
APR90	100646	1217	APR90	2047	49
MAY90	109617	1243	MAY90	2636	45
JUN90	90003	1063	JUN90	2487	51
JUL90	110944	1120	JUL90	2972	55
AUG90	100656	1427	AUG90	2719	39
SEP90	105557	1224	SEP90	2324	36
OCT90	96216	1552	OCT90	2146	42
NOV90	93379	1039	NOV90	2019	43
DEC90	81196	816	DEC90	1782	42
JAN91	91174	1243	JAN91	2010	41
FEB91	92770	947	FEB91	1734	51
MAR91	88681	1065	MAR91	2514	33
APR91	104720	1109	APR91	2575	42
MAY91	112495	1103	MAY91	3071	45
JUN91	95959	1383	JUN91	2574	38

Cost Center RP			Cost Center SM		
CHASN	Units	Dollars	CHASN	Units	Dollars
OCT89	--	--	OCT89	587131	186
NOV89	--	--	NOV89	389343	-1
DEC89	--	--	DEC89	224288	3
JAN90	--	--	JAN90	632420	4
FEB90	--	--	FEB90	466569	5
MAR90	--	--	MAR90	436874	5
APR90	--	--	APR90	485143	2
MAY90	--	--	MAY90	485232	3
JUN90	--	--	JUN90	413366	21
JUL90	--	--	JUL90	495212	3
AUG90	--	--	AUG90	569928	7
SEP90	--	--	SEP90	581065	36
OCT90	0	369	OCT90	332946	201
NOV90	0	42	NOV90	389007	-2
DEC90	0	133	DEC90	354535	31
JAN91	0	300	JAN91	543343	3
FEB91	0	89	FEB91	376751	5
MAR91	0	19	MAR91	357203	6
APR91	0	124	APR91	479102	11
MAY91	0	192	MAY91	444960	4
JUN91	0	225	JUN91	406792	4

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Cost Center SP
CHASN          Units   Dollars
OCT89          11621       199
NOV89          14793       218
DEC89          12648       158
JAN90          19786       211
FEB90          15408       207
MAR90          21543       232
APR90          19258       226
MAY90          14773       225
JUN90          15504       203
JUL90          19249       210
AUG90          18189       250
SEP90          17723       220
OCT90          11253       230
NOV90          12923       234
DEC90          12988       174
JAN91          16403       236
FEB91          16218       228
MAR91          16599       250
APR91          14132       261
MAY91          15587       250
JUN91          17539       233
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C.   NRFC GREAT LAKES

Cost Center CD			Cost Center CP		
GLAKE	Units	Dollars	GLAKE	Units	Dollars
OCT89	38168	27	OCT89	20422	42
NOV89	28404	27	NOV89	21810	43
DEC89	36322	41	DEC89	27840	51
JAN90	36322	41	JAN90	27841	51
FEB90	53209	40	FEB90	21826	54
MAR90	45144	38	MAR90	21085	45
APR90	40596	43	APR90	21918	53
MAY90	61480	38	MAY90	21312	46
JUN90	36157	42	JUN90	32059	53
JUL90	48026	37	JUL90	19127	52
AUG90	39074	40	AUG90	13148	38
SEP90	44603	35	SEP90	17997	52
OCT90	40821	37	OCT90	41028	53
NOV90	28304	44	NOV90	23864	61
DEC90	46250	38	DEC90	27564	58
JAN91	0	0	JAN91	24430	77
FEB91	0	8	FEB91	24200	57
MAR91	0	6	MAR91	24266	46
APR91	0	30	APR91	24059	50
MAY91	38311	9	MAY91	22066	59
JUN91	0	0	JUN91	0	0

Cost Center DB			Cost Center DP		
GLAKE	Units	Dollars	GLAKE	Units	Dollars
OCT89	86367	84	OCT89	--	10
NOV89	80316	102	NOV89	--	347
DEC89	98640	96	DEC89	--	347
JAN90	98641	97	JAN90	--	348
FEB90	96323	103	FEB90	--	-378
MAR90	98591	83	MAR90	--	692
APR90	134497	96	APR90	--	693
MAY90	109464	95	MAY90	--	90
JUN90	114909	82	JUN90	--	34
JUL90	107095	94	JUL90	--	30
AUG90	109816	79	AUG90	--	504
SEP90	71052	73	SEP90	--	409
OCT90	120109	113	OCT90	0	16
NOV90	118582	122	NOV90	0	409
DEC90	106522	111	DEC90	0	41
JAN91	140714	118	JAN91	0	109
FEB91	121161	120	FEB91	0	88
MAR91	137617	130	MAR91	0	24
APR91	148968	121	APR91	0	62
MAY91	143965	125	MAY91	0	64
JUN91	0	0	JUN91	0	0

Cost Center FR			Cost Center GA		
GLAKE	Units	Dollars	GLAKE	Units	Dollars
OCT89	160482	105	OCT89	--	38
NOV89	146624	102	NOV89	0	83
DEC89	179558	107	DEC89	--	71
JAN90	179558	108	JAN90	--	72
FEB90	209426	110	FEB90	--	99
MAR90	165783	107	MAR90	--	74
APR90	179250	98	APR90	--	75
MAY90	168791	106	MAY90	--	81
JUN90	162523	94	JUN90	--	43
JUL90	145635	103	JUL90	--	49
AUG90	102215	97	AUG90	--	68
SEP90	114253	103	SEP90	--	70
OCT90	180859	110	OCT90	0	55
NOV90	225956	136	NOV90	0	85
DEC90	208091	106	DEC90	0	52
JAN91	222354	119	JAN91	0	44
FEB91	194469	110	FEB91	0	153
MAR91	198940	116	MAR91	0	26
APR91	214086	115	APR91	0	47
MAY91	211780	110	MAY91	0	116
JUN91	0	0	JUN91	0	0

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Cost Center RP
GLAKE          Units   Dollars
OCT89           --       --
NOV89           --       --
DEC89           --       --
JAN90           --       --
FEB90           --       --
MAR90           --       --
APR90           --       --
MAY90           --       --
JUN90           --       --
JUL90           --       --
AUG90           --       --
SEP90           --       --
OCT90            0        0
NOV90            0        0
DEC90            0        0
JAN91            0        0
FEB91            0        0
MAR91            0        0
APR91            0        0
MAY91            0        0
JUN91            0        0
```

D. NSC JACKSONVILLE

| Cost Center DP | | | Cost Center FO | | |
JAX	Units	Dollars	JAX	Units	Dollars
OCT89	--	597	OCT89	4525	89
NOV89	--	26	NOV89	3889	81
DEC89	--	79	DEC89	3924	99
JAN90	--	516	JAN90	4243	85
FEB90	--	-198	FEB90	3768	62
MAR90	--	-37	MAR90	3773	65
APR90	--	1001	APR90	3672	59
MAY90	0	4	MAY90	4073	62
JUN90	--	527	JUN90	3933	60
JUL90	--	26	JUL90	3033	55
AUG90	--	4	AUG90	3820	128
SEP90	--	-4	SEP90	3307	146
OCT90	0	61	OCT90	2687	159
NOV90	0	597	NOV90	3015	37
DEC90	0	4	DEC90	2667	58
JAN91	0	524	JAN91	2978	70
FEB91	0	-6	FEB91	2211	69
MAR91	0	21	MAR91	2636	63
APR91	0	651	APR91	2564	87
MAY91	0	5	MAY91	3130	92
JUN91	0	680	JUN91	2905	80

Cost Center GA			Cost Center LP		
JAX	Units	Dollars	JAX	Units	Dollars
OCT89	--	844	OCT89	470	66
NOV89	--	256	NOV89	131	75
DEC89	--	194	DEC89	140	27
JAN90	--	1233	JAN90	212	91
FEB90	--	639	FEB90	108	56
MAR90	--	-399	MAR90	288	81
APR90	--	310	APR90	169	84
MAY90	--	143	MAY90	-157	77
JUN90	--	589	JUN90	107	58
JUL90	--	198	JUL90	130	73
AUG90	--	408	AUG90	136	73
SEP90	--	264	SEP90	245	95
OCT90	0	842	OCT90	486	87
NOV90	0	156	NOV90	60	69
DEC90	0	275	DEC90	342	68
JAN91	0	753	JAN91	61	81
FEB91	0	146	FEB91	137	70
MAR91	0	180	MAR91	136	79
APR91	0	695	APR91	104	80
MAY91	0	49	MAY91	111	88
JUN91	0	715	JUN91	228	65

Cost Center MA			Cost Center PD		
JAX	Units	Dollars	JAX	Units	Dollars
OCT89	148982	19	OCT89	88465	1020
NOV89	94930	20	NOV89	69605	878
DEC89	93239	6	DEC89	57849	503
JAN90	77480	25	JAN90	78700	827
FEB90	90285	15	FEB90	73917	590
MAR90	59836	17	MAR90	59116	672
APR90	87484	18	APR90	54811	553
MAY90	71541	20	MAY90	79522	707
JUN90	101236	16	JUN90	66343	604
JUL90	84158	20	JUL90	50953	699
AUG90	79762	29	AUG90	68486	927
SEP90	88431	29	SEP90	47189	690
OCT90	86553	22	OCT90	50704	1754
NOV90	73634	15	NOV90	59836	320
DEC90	71171	17	DEC90	58033	530
JAN91	75904	28	JAN91	52515	881
FEB91	76215	24	FEB91	57907	635
MAR91	80717	17	MAR91	63440	816
APR91	92037	24	APR91	56462	622
MAY91	81897	20	MAY91	62149	695
JUN91	81383	24	JUN91	59280	615

Cost Center PP			Cost Center RP		
JAX	Units	Dollars	JAX	Units	Dollars
OCT89	2556	81	OCT89	--	--
NOV89	2227	52	NOV89	--	--
DEC89	2033	62	DEC89	--	--
JAN90	2342	69	JAN90	--	--
FEB90	2185	61	FEB90	--	--
MAR90	2213	69	MAR90	--	--
APR90	2295	97	APR90	--	--
MAY90	3007	76	MAY90	--	--
JUN90	2921	57	JUN90	--	--
JUL90	2731	75	JUL90	--	--
AUG90	4280	68	AUG90	--	--
SEP90	2531	25	SEP90	--	--
OCT90	2432	123	OCT90	0	138
NOV90	2350	58	NOV90	0	18
DEC90	2288	33	DEC90	0	48
JAN91	2455	67	JAN91	0	34
FEB91	2269	84	FEB91	0	25
MAR91	2239	52	MAR91	0	49
APR91	2974	53	APR91	0	103
MAY91	3511	66	MAY91	0	42
JUN91	2950	81	JUN91	0	103

Cost Center SM			Cost Center SP		
JAX	Units	Dollars	JAX	Units	Dollars
OCT89	1385000	51	OCT89	5480	105
NOV89	1134481	48	NOV89	4458	108
DEC89	728236	25	DEC89	5896	46
JAN90	1632374	74	JAN90	4621	166
FEB90	1121543	48	FEB90	4411	80
MAR90	1165872	56	MAR90	6920	103
APR90	1271381	58	APR90	4789	118
MAY90	1471121	60	MAY90	4908	118
JUN90	1039728	47	JUN90	5920	106
JUL90	1730759	53	JUL90	7000	122
AUG90	1208190	62	AUG90	6798	153
SEP90	1146599	53	SEP90	8616	175
OCT90	1058614	64	OCT90	4216	118
NOV90	1080377	43	NOV90	4863	80
DEC90	1262268	96	DEC90	5983	87
JAN91	1534983	91	JAN91	4767	109
FEB91	1213922	59	FEB91	5641	101
MAR91	1083153	93	MAR91	5452	101
APR91	1324729	64	APR91	5817	108
MAY91	1916257	73	MAY91	5956	114
JUN91	1078342	54	JUN91	5930	88

E. NRCC NAPLES

Cost Center GA NAP	Units	Dollars
OCT89	--	254
NOV89	--	282
DEC89	--	155
JAN90	--	261
FEB90	--	185
MAR90	--	269
APR90	--	199
MAY90	--	213
JUN90	--	238
JUL90	--	236
AUG90	--	207
SEP90	--	222
OCT90	0	107
NOV90	0	82
DEC90	0	94
JAN91	0	194
FEB91	0	0
MAR91	0	115
APR91	0	109
MAY91	0	59
JUN91	0	171

Cost Center LP NAP	Units	Dollars
OCT89	456	143
NOV89	192	142
DEC89	329	134
JAN90	788	139
FEB90	365	145
MAR90	866	148
APR90	533	141
MAY90	215	168
JUN90	665	151
JUL90	491	159
AUG90	82	201
SEP90	575	144
OCT90	572	236
NOV90	373	214
DEC90	980	377
JAN91	668	299
FEB91	429	207
MAR91	446	295
APR91	96	186
MAY91	303	154
JUN91	533	215

Cost Center RP NAP	Units	Dollars
OCT89	--	--
NOV89	--	--
DEC89	--	--
JAN90	--	--
FEB90	--	--
MAR90	--	--
APR90	--	--
MAY90	--	--
JUN90	--	--
JUL90	--	--
AUG90	--	--
SEP90	--	--
OCT90	0	0
NOV90	0	0
DEC90	0	0
JAN91	0	0
FEB91	0	0
MAR91	0	0
APR91	0	0
MAY91	0	0
JUN91	0	0

Cost Center SP NAP	Units	Dollars
OCT89	882	30
NOV89	1783	30
DEC89	1787	29
JAN90	2206	22
FEB90	1967	23
MAR90	1691	23
APR90	1275	24
MAY90	1834	25
JUN90	1544	35
JUL90	1724	25
AUG90	1615	27
SEP90	2803	26
OCT90	1484	26
NOV90	2085	35
DEC90	1667	43
JAN91	1788	32
FEB91	2114	34
MAR91	1564	33
APR91	1405	32
MAY91	1415	26
JUN91	1876	39

F. NAVY MATERIAL AND TRANSPORTATION OFFICE

Cost Center AT			Cost Center GA		
NMTO	Units	Dollars	NMTO	Units	Dollars
OCT89	41307	73	OCT89	--	635
NOV89	40989	93	NOV89	--	758
DEC89	23083	81	DEC89	--	971
JAN90	33966	79	JAN90	--	752
FEB90	31299	79	FEB90	--	632
MAR90	36096	104	MAR90	--	672
APR90	35352	39	APR90	--	859
MAY90	37372	80	MAY90	--	812
JUN90	29089	66	JUN90	--	550
JUL90	33822	139	JUL90	--	847
AUG90	38603	117	AUG90	--	790
SEP90	42655	160	SEP90	--	815
OCT90	99227	75	OCT90	0	861
NOV90	48831	105	NOV90	0	931
DEC90	59856	114	DEC90	0	878
JAN91	97941	199	JAN91	0	926
FEB91	41136	71	FEB91	0	895
MAR91	43645	134	MAR91	0	689
APR91	36998	139	APR91	0	958
MAY91	39129	126	MAY91	0	777
JUN91	55693	60	JUN91	0	827

Cost Center RP		
NMTO	Units	Dollars
OCT89	--	--
NOV89	--	--
DEC89	--	--
JAN90	--	--
FEB90	--	--
MAR90	--	--
APR90	--	--
MAY90	--	--
JUN90	--	--
JUL90	--	--
AUG90	--	--
SEP90	--	--
OCT90	0	0
NOV90	0	0
DEC90	0	0
JAN91	0	0
FEB91	0	0
MAR91	0	75
APR91	0	0
MAY91	0	0
JUN91	0	0

G.   NSC NORFOLK

Cost Center AH			Cost Center CP		
NORVA	Units	Dollars	NORVA	Units	Dollars
OCT89	35052	170	OCT89	41104	83
NOV89	34391	443	NOV89	60903	71
DEC89	29354	-71	DEC89	41521	82
JAN90	34365	205	JAN90	41916	123
FEB90	34286	186	FEB90	42133	91
MAR90	36243	190	MAR90	42057	91
APR90	37736	222	APR90	41729	93
MAY90	34366	215	MAY90	62269	75
JUN90	33133	118	JUN90	41330	84
JUL90	31888	170	JUL90	41359	92
AUG90	33941	313	AUG90	41626	99
SEP90	28329	170	SEP90	41616	115
OCT90	34928	130	OCT90	51779	62
NOV90	34927	130	NOV90	51778	63
DEC90	31842	505	DEC90	41500	173
JAN91	35321	313	JAN91	41488	49
FEB91	34554	201	FEB91	41786	77
MAR91	42986	406	MAR91	42011	81
APR91	32943	259	APR91	42111	94
MAY91	30175	234	MAY91	63110	90
JUN91	0	0	JUN91	0	0

Cost Center DB			Cost Center DP		
NORVA	Units	Dollars	NORVA	Units	Dollars
OCT89	10036	11	OCT89	--	654
NOV89	17882	18	NOV89	--	513
DEC89	11426	9	DEC89	--	1417
JAN90	11018	10	JAN90	--	611
FEB90	10454	9	FEB90	--	739
MAR90	14532	11	MAR90	--	665
APR90	9603	18	APR90	--	578
MAY90	14543	7	MAY90	--	663
JUN90	11372	11	JUN90	--	573
JUL90	9073	24	JUL90	--	604
AUG90	11144	10	AUG90	--	682
SEP90	15658	6	SEP90	--	654
OCT90	13173	9	OCT90	0	520
NOV90	13173	8	NOV90	0	521
DEC90	12436	20	DEC90	0	1796
JAN91	9174	4	JAN91	0	241
FEB91	8850	9	FEB91	0	502
MAR91	13456	11	MAR91	0	473
APR91	8526	10	APR91	0	497
MAY91	13578	11	MAY91	0	568
JUN91	0	0	JUN91	0	0

Cost Center FO			Cost Center GA		
NORVA	Units	Dollars	NORVA	Units	Dollars
OCT89	7521	207	OCT89	--	3471
NOV89	8837	227	NOV89	--	1557
DEC89	6008	182	DEC89	--	1200
JAN90	9545	208	JAN90	--	3700
FEB90	8033	193	FEB90	--	1311
MAR90	6941	217	MAR90	--	1235
APR90	6873	194	APR90	--	2617
MAY90	5015	208	MAY90	--	1722
JUN90	8624	190	JUN90	--	1647
JUL90	7019	183	JUL90	--	1069
AUG90	9989	206	AUG90	--	1586
SEP90	6306	231	SEP90	--	4242
OCT90	4941	184	OCT90	0	2138
NOV90	4941	185	NOV90	0	2138
DEC90	6663	466	DEC90	0	182
JAN91	4981	105	JAN91	0	4940
FEB91	6118	179	FEB91	0	1792
MAR91	4939	197	MAR91	0	614
APR91	6869	181	APR91	0	2222
MAY91	6794	161	MAY91	0	1031
JUN91	0	0	JUN91	0	0

Cost Center LP			Cost Center MA		
NORVA	Units	Dollars	NORVA	Units	Dollars
OCT89	881	259	OCT89	389335	71
NOV89	522	230	NOV89	335591	63
DEC89	766	201	DEC89	295732	66
JAN90	857	263	JAN90	379434	69
FEB90	818	237	FEB90	347707	66
MAR90	1367	228	MAR90	404287	73
APR90	987	204	APR90	380667	107
MAY90	724	255	MAY90	381675	72
JUN90	931	187	JUN90	354425	66
JUL90	400	207	JUL90	450272	79
AUG90	601	214	AUG90	389731	61
SEP90	959	199	SEP90	393779	62
OCT90	834	172	OCT90	385959	31
NOV90	356	173	NOV90	385958	30
DEC90	849	415	DEC90	321226	156
JAN91	600	105	JAN91	368664	75
FEB91	743	201	FEB91	373805	63
MAR91	565	213	MAR91	324429	68
APR91	408	231	APR91	339447	66
MAY91	379	246	MAY91	402410	67
JUN91	484	228	JUN91	0	0

Cost Center PD			Cost Center PP		
NORVA	Units	Dollars	NORVA	Units	Dollars
OCT89	264324	3412	OCT89	6423	53
NOV89	229793	2979	NOV89	6309	53
DEC89	221004	3105	DEC89	6355	250
JAN90	263366	4313	JAN90	6532	116
FEB90	254057	3013	FEB90	5889	107
MAR90	277937	3396	MAR90	6508	86
APR90	263818	3056	APR90	6669	74
MAY90	268831	3630	MAY90	8120	119
JUN90	264303	3120	JUN90	7683	0
JUL90	268815	3399	JUL90	7216	101
AUG90	277482	3514	AUG90	7139	148
SEP90	274419	4096	SEP90	5656	102
OCT90	251790	2176	OCT90	5589	171
NOV90	251789	2176	NOV90	5589	49
DEC90	245840	7534	DEC90	4738	109
JAN91	254890	3845	JAN91	5752	100
FEB91	260683	3579	FEB91	5027	286
MAR91	258672	4004	MAR91	5782	-54
APR91	242876	3956	APR91	5951	114
MAY91	245616	3532	MAY91	8124	125
JUN91	0	0	JUN91	0	121

Cost Center RP			Cost Center SM		
NORVA	Units	Dollars	NORVA	Units	Dollars
OCT89	--	--	OCT89	1300471	34
NOV89	--	--	NOV89	1319873	35
DEC89	--	--	DEC89	933831	47
JAN90	--	--	JAN90	2077178	88
FEB90	--	--	FEB90	1429539	66
MAR90	--	--	MAR90	1480603	65
APR90	--	--	APR90	1662827	39
MAY90	--	--	MAY90	1638774	52
JUN90	--	--	JUN90	1456632	45
JUL90	--	--	JUL90	1945512	56
AUG90	--	--	AUG90	2745066	100
SEP90	--	--	SEP90	2006564	153
OCT90	0	373	OCT90	1417439	23
NOV90	0	373	NOV90	1417438	23
DEC90	0	630	DEC90	1530452	106
JAN91	0	388	JAN91	2056956	65
FEB91	0	376	FEB91	1411786	55
MAR91	0	333	MAR91	1067810	83
APR91	0	629	APR91	1811754	69
MAY91	0	596	MAY91	1969867	69
JUN91	0	0	JUN91	0	0

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Cost Center SP
NORVA        Units   Dollars
OCT89        12316      273
NOV89        13075      241
DEC89        11286      240
JAN90        16857      256
FEB90        17400      246
MAR90        18387      264
APR90        15803      234
MAY90        18194      278
JUN90        16507      229
JUL90        16612      265
AUG90        20788      251
SEP90        19565      284
OCT90        10081      204
NOV90        13625      204
DEC90        16041      495
JAN91        16938       96
FEB91        14367      244
MAR91        14869      235
APR91        15526      241
MAY91        20405      248
JUN91        17610      246
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H.   NAVAL PUBLICATIONS AND FORMS CENTER

Cost Center CP			Cost Center DB		
NPFC	Units	Dollars	NPFC	Units	Dollars
OCT89	18095	42	OCT89	18448	31
NOV89	18130	43	NOV89	21821	48
DEC89	27039	48	DEC89	23226	69
JAN90	17973	27	JAN90	21335	20
FEB90	17838	40	FEB90	17716	41
MAR90	17716	43	MAR90	26224	55
APR90	17554	42	APR90	18758	44
MAY90	17461	38	MAY90	25048	44
JUN90	26236	33	JUN90	24318	35
JUL90	15731	39	JUL90	19417	34
AUG90	17467	34	AUG90	19701	36
SEP90	17312	30	SEP90	18449	-19
OCT90	0	0	OCT90	0	0
NOV90	34286	89	NOV90	40367	71
DEC90	25361	35	DEC90	17665	23
JAN91	16882	50	JAN91	17789	59
FEB91	16784	46	FEB91	19724	18
MAR91	16691	42	MAR91	21955	34
APR91	16731	36	APR91	27729	39
MAY91	16835	52	MAY91	20049	32
JUN91	25395	37	JUN91	20726	25

Cost Center FR			Cost Center GA		
NPFC	Units	Dollars	NPFC	Units	Dollars
OCT89	38005	93	OCT89	--	545
NOV89	31360	57	NOV89	--	374
DEC89	102424	80	DEC89	--	196
JAN90	130544	41	JAN90	--	589
FEB90	101487	67	FEB90	--	228
MAR90	87379	83	MAR90	--	346
APR90	75446	69	APR90	--	231
MAY90	108317	75	MAY90	--	521
JUN90	103627	45	JUN90	--	262
JUL90	117025	101	JUL90	--	285
AUG90	91957	46	AUG90	--	161
SEP90	101204	77	SEP90	--	486
OCT90	0	0	OCT90	0	0
NOV90	184179	158	NOV90	0	1310
DEC90	122845	65	DEC90	0	308
JAN91	65743	67	JAN91	0	366
FEB91	92864	75	FEB91	0	280
MAR91	111270	80	MAR91	0	198
APR91	13216	8	APR91	0	175
MAY91	74956	102	MAY91	0	256
JUN91	98425	61	JUN91	0	285

Cost Center IC			Cost Center MA		
NPFC	Units	Dollars	NPFC	Units	Dollars
OCT89	9167	80	OCT89	2791	12
NOV89	9093	102	NOV89	5221	13
DEC89	9110	72	DEC89	7953	16
JAN90	9062	86	JAN90	10115	5
FEB90	9025	82	FEB90	11583	13
MAR90	9049	119	MAR90	11889	14
APR90	9078	116	APR90	14119	16
MAY90	8945	141	MAY90	10472	8
JUN90	8719	92	JUN90	10448	10
JUL90	8992	97	JUL90	10125	3
AUG90	9019	110	AUG90	9664	18
SEP90	8797	57	SEP90	9547	11
OCT90	0	0	OCT90	0	0
NOV90	17661	195	NOV90	15473	23
DEC90	8326	67	DEC90	3126	10
JAN91	8430	93	JAN91	8578	7
FEB91	8565	69	FEB91	18020	10
MAR91	8260	88	MAR91	13010	10
APR91	8491	94	APR91	99494	67
MAY91	8486	94	MAY91	13415	14
JUN91	8391	72	JUN91	11198	9

Cost Center PD			Cost Center RP		
NPFC	Units	Dollars	NPFC	Units	Dollars
OCT89	162639	409	OCT89	--	--
NOV89	154851	327	NOV89	--	--
DEC89	121266	301	DEC89	--	--
JAN90	138920	341	JAN90	--	--
FEB90	147120	466	FEB90	--	--
MAR90	184296	277	MAR90	--	--
APR90	156738	391	APR90	--	--
MAY90	144038	360	MAY90	--	--
JUN90	151208	135	JUN90	--	--
JUL90	144869	434	JUL90	--	--
AUG90	151590	298	AUG90	--	--
SEP90	108493	271	SEP90	--	--
OCT90	0	0	OCT90	0	0
NOV90	302383	725	NOV90	0	0
DEC90	118600	233	DEC90	0	0
JAN91	141455	448	JAN91	0	0
FEB91	133832	404	FEB91	0	0
MAR91	176688	354	MAR91	0	0
APR91	183398	476	APR91	0	0
MAY91	165446	407	MAY91	0	0
JUN91	128976	362	JUN91	0	0

I.   NAVY REGIONAL FINANCE CENTER

Cost Center CP			Cost Center DB		
NRFC	Units	Dollars	NRFC	Units	Dollars
OCT89	86884	151	OCT89	253311	296
NOV89	85762	131	NOV89	265710	238
DEC89	128965	192	DEC89	265557	316
JAN90	86093	118	JAN90	246428	183
FEB90	85538	156	FEB90	251935	220
MAR90	84822	134	MAR90	259453	230
APR90	84120	131	APR90	258444	305
MAY90	83650	134	MAY90	262892	229
JUN90	83588	210	JUN90	268812	326
JUL90	102107	92	JUL90	470502	212
AUG90	83357	126	AUG90	288550	226
SEP90	103209	164	SEP90	269095	286
OCT90	54647	105	OCT90	136230	190
NOV90	67939	129	NOV90	110840	213
DEC90	109265	186	DEC90	109389	311
JAN91	72805	131	JAN91	89246	291
FEB91	76413	131	FEB91	94904	197
MAR91	71152	135	MAR91	156323	210
APR91	71022	134	APR91	152536	265
MAY91	70851	136	MAY91	166989	180
JUN91	107324	205	JUN91	130533	224

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Cost Center DP                          Cost Center FR
NRFC           Units   Dollars          NRFC           Units   Dollars
OCT89           --        251           OCT89         362650       492
NOV89           --         52           NOV89         361676       323
DEC89           --        393           DEC89         430308       487
JAN90           --        989           JAN90         405213       286
FEB90           --         60           FEB90         413481       333
MAR90           --        337           MAR90         441904       312
APR90           --        247           APR90         487265       309
MAY90           --         51           MAY90         469150       346
JUN90            0        605           JUN90         429103       467
JUL90           --        648           JUL90         455097       346
AUG90           --        200           AUG90         419979       272
SEP90           --        391           SEP90         573292       341
OCT90            0        342           OCT90         440359       461
NOV90            0         92           NOV90         393938       323
DEC90            0         76           DEC90         401105       478
JAN91            0        137           JAN91         383416       282
FEB91            0        174           FEB91         491481       340
MAR91            0        288           MAR91         497150       230
APR91            0        299           APR91         521674       249
MAY91            0         71           MAY91         534515       315
JUN91            0        146           JUN91         521923       498


Cost Center GA
NRFC           Units   Dollars
OCT89           --        156
NOV89           --         69
DEC89           --         96
JAN90           --         67
FEB90           --         66
MAR90           --         93
APR90           --         62
MAY90           --        105
JUN90           --        131
JUL90           --         60
AUG90           --          1
SEP90            0         84
OCT90            0         86
NOV90            0         61
DEC90            0        129
JAN91            0         98
FEB91            0         61
MAR91            0         63
APR91            0        100
MAY91            0         53
JUN91            0         93
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J. NSC OAKLAND

Cost Center CP			Cost Center DB		
OAK	Units	Dollars	OAK	Units	Dollars
OCT89	32373	63	OCT89	146653	183
NOV89	32248	75	NOV89	145252	188
DEC89	31914	71	DEC89	158152	193
JAN90	31734	67	JAN90	129287	204
FEB90	31732	78	FEB90	143394	189
MAR90	47202	79	MAR90	181480	214
APR90	30977	72	APR90	139548	192
MAY90	31158	77	MAY90	161718	202
JUN90	30700	85	JUN90	153397	200
JUL90	33377	64	JUL90	155445	171
AUG90	37544	65	AUG90	126818	176
SEP90	27690	55	SEP90	130088	200
OCT90	27618	75	OCT90	142383	177
NOV90	22246	72	NOV90	114301	192
DEC90	28116	70	DEC90	99013	149
JAN91	24870	89	JAN91	102133	197
FEB91	24700	49	FEB91	117151	175
MAR91	36878	77	MAR91	116712	127
APR91	24534	79	APR91	113912	229
MAY91	24443	79	MAY91	120715	183
JUN91	24351	58	JUN91	121465	179

Cost Center DP			Cost Center FO		
OAK	Units	Dollars	OAK	Units	Dollars
OCT89	--	914	OCT89	5285	45
NOV89	--	323	NOV89	3228	46
DEC89	--	376	DEC89	3642	40
JAN90	--	863	JAN90	4415	42
FEB90	--	322	FEB90	3951	46
MAR90	--	443	MAR90	5114	60
APR90	--	857	APR90	3877	46
MAY90	--	376	MAY90	3812	47
JUN90	--	364	JUN90	3058	43
JUL90	--	692	JUL90	3027	44
AUG90	--	349	AUG90	5068	56
SEP90	--	453	SEP90	4987	29
OCT90	0	1517	OCT90	2456	55
NOV90	0	377	NOV90	2010	46
DEC90	0	306	DEC90	1271	42
JAN91	0	608	JAN91	2042	50
FEB91	0	367	FEB91	1961	40
MAR91	0	366	MAR91	1057	46
APR91	0	426	APR91	2426	40
MAY91	0	485	MAY91	1813	69
JUN91	0	1128	JUN91	1830	66

Cost Center FR			Cost Center GA		
OAK	Units	Dollars	OAK	Units	Dollars
OCT89	132089	184	OCT89	0	2233
NOV89	107531	160	NOV89	--	4090
DEC89	149612	143	DEC89	--	2569
JAN90	155254	167	JAN90	--	2466
FEB90	144699	152	FEB90	--	1506
MAR90	170132	176	MAR90	--	1525
APR90	146763	164	APR90	--	2120
MAY90	183286	174	MAY90	--	1459
JUN90	163052	175	JUN90	--	1642
JUL90	144847	167	JUL90	--	6952
AUG90	152540	181	AUG90	--	2417
SEP90	159470	165	SEP90	--	1852
OCT90	136758	211	OCT90	0	1410
NOV90	122963	143	NOV90	0	2333
DEC90	94188	131	DEC90	0	1052
JAN91	98336	163	JAN91	0	1278
FEB91	84788	165	FEB91	0	2278
MAR91	103300	210	MAR91	0	1430
APR91	104705	181	APR91	0	1235
MAY91	82850	186	MAY91	0	983
JUN91	78090	173	JUN91	0	2664

Cost Center LP			Cost Center MA		
OAK	Units	Dollars	OAK	Units	Dollars
OCT89	89	55	OCT89	51060	48
NOV89	9	49	NOV89	48617	46
DEC89	27	44	DEC89	34880	45
JAN90	103	45	JAN90	47039	50
FEB90	63	58	FEB90	38925	45
MAR90	77	17	MAR90	36406	53
APR90	60	49	APR90	41387	54
MAY90	41	39	MAY90	33945	56
JUN90	49	43	JUN90	33925	48
JUL90	60	48	JUL90	35655	44
AUG90	50	60	AUG90	80039	48
SEP90	230	42	SEP90	25653	40
OCT90	25	49	OCT90	36301	48
NOV90	55	51	NOV90	47193	40
DEC90	13	36	DEC90	33829	34
JAN91	84	49	JAN91	36257	51
FEB91	18	43	FEB91	45110	50
MAR91	114	45	MAR91	59858	66
APR91	59	53	APR91	39460	64
MAY91	94	67	MAY91	30769	52
JUN91	0	49	JUN91	33233	44

Cost Center PD				Cost Center PP		
OAK	Units	Dollars		OAK	Units	Dollars
OCT89	111779	1543		OCT89	5640	113
NOV89	98185	1779		NOV89	5755	98
DEC89	151762	580		DEC89	4832	86
JAN90	164087	2055		JAN90	6042	112
FEB90	145809	1515		FEB90	5167	99
MAR90	167338	1519		MAR90	5111	119
APR90	154143	1704		APR90	6008	116
MAY90	147373	1727		MAY90	5567	130
JUN90	137537	1549		JUN90	5596	125
JUL90	134	416		JUL90	5205	93
AUG90	409	22		AUG90	5826	101
SEP90	0	-22		SEP90	4536	93
OCT90	0	332		OCT90	4500	108
NOV90	0	295		NOV90	3855	109
DEC90	0	212		DEC90	3244	113
JAN91	0	85		JAN91	4398	114
FEB91	0	261		FEB91	3484	119
MAR91	0	511		MAR91	3828	113
APR91	0	356		APR91	4292	111
MAY91	0	286		MAY91	5668	117
JUN91	0	844		JUN91	5206	102

Cost Center RP				Cost Center SM		
OAK	Units	Dollars		OAK	Units	Dollars
OCT89	--	--		OCT89	164148	47
NOV89	--	--		NOV89	155749	5
DEC89	--	--		DEC89	135784	5
JAN90	--	--		JAN90	112377	48
FEB90	--	--		FEB90	121247	6
MAR90	--	--		MAR90	125284	6
APR90	--	--		APR90	152823	49
MAY90	--	--		MAY90	94885	8
JUN90	--	--		JUN90	146617	10
JUL90	--	--		JUL90	174822	33
AUG90	--	--		AUG90	267056	24
SEP90	--	--		SEP90	140025	21
OCT90	0	308		OCT90	116432	24
NOV90	0	136		NOV90	161177	18
DEC90	0	221		DEC90	130562	19
JAN91	0	42		JAN91	199619	21
FEB91	0	103		FEB91	197663	18
MAR91	0	100		MAR91	152639	21
APR91	0	-43		APR91	188781	20
MAY91	0	126		MAY91	191066	22
JUN91	0	284		JUN91	165950	23

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Cost Center SP
OAK          Units    Dollars
OCT89        3565        98
NOV89        5047       102
DEC89        4472        91
JAN90        4955        94
FEB90        4316       107
MAR90        5363       137
APR90        4535       113
MAY90        3159        85
JUN90        3911       121
JUL90        3828        80
AUG90        3972       112
SEP90        5024        98
OCT90        4409       100
NOV90        3131       105
DEC90        2829        78
JAN91        4233       108
FEB91        4179       104
MAR91        4291       124
APR91        4212       119
MAY91        4450       119
JUN91           0       100
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K.   NSC PEARL HARBOR

Cost Center DP			Cost Center FO		
PEARL	Units	Dollars	PEARL	Units	Dollars
OCT89	--	348	OCT89	1601	136
NOV89	--	274	NOV89	2078	136
DEC89	--	579	DEC89	1524	119
JAN90	--	244	JAN90	1677	141
FEB90	--	236	FEB90	2706	141
MAR90	--	287	MAR90	2721	151
APR90	--	262	APR90	1893	136
MAY90	--	250	MAY90	2401	162
JUN90	--	244	JUN90	1845	145
JUL90	--	151	JUL90	1775	150
AUG90	--	260	AUG90	1917	171
SEP90	--	202	SEP90	1185	190
OCT90	0	302	OCT90	1407	162
NOV90	0	245	NOV90	2944	143
DEC90	0	201	DEC90	2642	132
JAN91	0	610	JAN91	2009	165
FEB91	0	241	FEB91	2960	156
MAR91	0	252	MAR91	2577	148
APR91	0	237	APR91	1985	168
MAY91	0	242	MAY91	3066	169
JUN91	0	218	JUN91	1833	156

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Cost Center GA			Cost Center LP		
PEARL	Units	Dollars	PEARL	Units	Dollars
OCT89	--	1208	OCT89	381	84
NOV89	--	850	NOV89	45	69
DEC89	--	-56	DEC89	8	60
JAN90	--	594	JAN90	112	73
FEB90	--	97	FEB90	127	80
MAR90	--	358	MAR90	192	73
APR90	--	1797	APR90	152	77
MAY90	--	401	MAY90	194	85
JUN90	--	286	JUN90	158	83
JUL90	--	279	JUL90	164	72
AUG90	--	419	AUG90	183	94
SEP90	--	1411	SEP90	223	109
OCT90	0	1208	OCT90	234	100
NOV90	0	87	NOV90	75	89
DEC90	0	797	DEC90	124	68
JAN91	0	730	JAN91	40	93
FEB91	0	441	FEB91	115	95
MAR91	0	-29	MAR91	52	91
APR91	0	998	APR91	91	90
MAY91	0	230	MAY91	92	98
JUN91	0	1155	JUN91	387	90

Cost Center MA			Cost Center PD		
PEARL	Units	Dollars	PEARL	Units	Dollars
OCT89	94451	27	OCT89	43417	673
NOV89	85178	24	NOV89	44092	513
DEC89	83777	23	DEC89	39594	452
JAN90	76665	24	JAN90	48634	427
FEB90	102683	22	FEB90	49073	472
MAR90	98117	28	MAR90	53757	675
APR90	90880	25	APR90	53561	482
MAY90	100580	27	MAY90	58573	566
JUN90	86886	26	JUN90	55500	512
JUL90	100870	26	JUL90	66473	517
AUG90	96750	27	AUG90	51991	442
SEP90	83095	35	SEP90	43738	685
OCT90	73902	30	OCT90	39702	612
NOV90	82037	22	NOV90	44560	506
DEC90	69830	20	DEC90	40872	311
JAN91	73954	30	JAN91	48327	603
FEB91	77765	26	FEB91	42635	537
MAR91	64950	26	MAR91	41407	507
APR91	76211	28	APR91	46401	581
MAY91	84234	25	MAY91	53472	463
JUN91	64858	24	JUN91	43241	507

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Cost Center PP                          Cost Center RP
PEARL       Units    Dollars            PEARL       Units    Dollars
OCT89        5885        141            OCT89          --         --
NOV89        5461        133            NOV89          --         --
DEC89        5443        111            DEC89          --         --
JAN90        5910        142            JAN90          --         --
FEB90        5148        124            FEB90          --         --
MAR90        6449        133            MAR90          --         --
APR90        6405        124            APR90          --         --
MAY90        7370        162            MAY90          --         --
JUN90        7080        138            JUN90          --         --
JUL90        7932        126            JUL90          --         --
AUG90        7383        122            AUG90          --         --
SEP90        5681        122            SEP90          --         --
OCT90        5762        119            OCT90           0        216
NOV90        4866        118            NOV90           0        107
DEC90        5266        169            DEC90           0         96
JAN91        5029         79            JAN91           0        218
FEB91        4244        127            FEB91           0         89
MAR91        4791        150            MAR91           0        128
APR91        5933        143            APR91           0        333
MAY91        7918        150            MAY91           0        134
JUN91        6593        124            JUN91           0        148


Cost Center SM                          Cost Center SP
PEARL       Units    Dollars            PEARL       Units    Dollars
OCT89      283283        193            OCT89        8286         65
NOV89      203659         -9            NOV89        3921         68
DEC89      243977          2            DEC89        2766         58
JAN90      318778          2            JAN90        5328         62
FEB90      380482       -112            FEB90        3237         72
MAR90      359571        115            MAR90        2932         78
APR90      430336          1            APR90        4049         74
MAY90      379003          3            MAY90        3524         80
JUN90      243868          1            JUN90        3442         59
JUL90      457931          3            JUL90        4085         82
AUG90      320077         -6            AUG90        5670        101
SEP90      284616         13            SEP90        3225        117
OCT90      237468        171            OCT90        6440         71
NOV90      270710         19            NOV90        2378         68
DEC90      265608          2            DEC90        2308         43
JAN91      392518          3            JAN91        2594         60
FEB91      325718          1            FEB91        1500         89
MAR91      256920         39            MAR91        3937         76
APR91      415949          3            APR91        5010         75
MAY91      380324          2            MAY91        3590         76
JUN91      273005          2            JUN91       10692         68
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L.   NSC PENSACOLA

Cost Center DP			Cost Center FO		
PEN	Units	Dollars	PEN	Units	Dollars
OCT89	--	290	OCT89	738	13
NOV89	--	118	NOV89	626	18
DEC89	--	209	DEC89	522	21
JAN90	--	195	JAN90	579	15
FEB90	--	214	FEB90	548	14
MAR90	--	199	MAR90	748	17
APR90	--	209	APR90	901	16
MAY90	--	205	MAY90	811	18
JUN90	--	197	JUN90	580	18
JUL90	--	201	JUL90	881	14
AUG90	--	183	AUG90	1048	20
SEP90	--	212	SEP90	452	15
OCT90	0	187	OCT90	676	16
NOV90	0	479	NOV90	605	15
DEC90	0	61	DEC90	461	16
JAN91	0	510	JAN91	495	18
FEB91	0	46	FEB91	569	15
MAR91	0	12	MAR91	494	16
APR91	0	479	APR91	607	19
MAY91	0	53	MAY91	792	18
JUN91	0	0	JUN91	0	0

Cost Center GA			Cost Center LP		
PEN	Units	Dollars	PEN	Units	Dollars
OCT89	--	359	OCT89	43	17
NOV89	--	212	NOV89	9	18
DEC89	--	392	DEC89	37	16
JAN90	--	356	JAN90	40	17
FEB90	--	190	FEB90	49	17
MAR90	--	221	MAR90	33	25
APR90	--	314	APR90	35	15
MAY90	--	178	MAY90	30	17
JUN90	--	308	JUN90	36	20
JUL90	--	278	JUL90	35	20
AUG90	--	220	AUG90	21	21
SEP90	--	701	SEP90	107	24
OCT90	0	300	OCT90	29	21
NOV90	0	566	NOV90	24	22
DEC90	0	130	DEC90	64	20
JAN91	0	401	JAN91	52	27
FEB91	0	124	FEB91	16	21
MAR91	0	123	MAR91	48	27
APR91	0	402	APR91	51	31
MAY91	0	195	MAY91	59	24
JUN91	0	0	JUN91	0	0

Cost Center PD				Cost Center PP		
PEN	Units	Dollars		PEN	Units	Dollars
OCT89	64406	551		OCT89	2248	45
NOV89	66093	669		NOV89	2076	43
DEC89	56272	666		DEC89	1676	42
JAN90	63299	714		JAN90	2422	53
FEB90	54832	527		FEB90	2255	48
MAR90	65410	571		MAR90	2448	52
APR90	61640	539		APR90	2304	52
MAY90	64437	616		MAY90	2705	52
JUN90	55907	535		JUN90	2721	0
JUL90	57401	605		JUL90	2498	44
AUG90	68664	664		AUG90	2534	40
SEP90	60769	638		SEP90	2305	39
OCT90	59248	639		OCT90	2319	46
NOV90	55758	554		NOV90	2244	43
DEC90	53179	555		DEC90	1943	48
JAN91	58436	594		JAN91	2137	48
FEB91	57752	570		FEB91	1677	48
MAR91	57502	620		MAR91	2089	43
APR91	62447	598		APR91	2413	44
MAY91	55126	646		MAY91	2774	55
JUN91	0	0		JUN91	0	45

Cost Center RP				Cost Center SM		
PEN	Units	Dollars		PEN	Units	Dollars
OCT89	--	--		OCT89	131295	13
NOV89	--	--		NOV89	111367	7
DEC89	--	--		DEC89	87975	6
JAN90	--	--		JAN90	148583	10
FEB90	--	--		FEB90	95450	6
MAR90	--	--		MAR90	146120	7
APR90	--	--		APR90	124301	5
MAY90	--	--		MAY90	124156	6
JUN90	--	--		JUN90	109541	13
JUL90	--	--		JUL90	131535	8
AUG90	--	--		AUG90	159686	7
SEP90	--	--		SEP90	157914	6
OCT90	0	0		OCT90	512576	19
NOV90	0	0		NOV90	596073	33
DEC90	0	0		DEC90	549049	25
JAN91	0	239		JAN91	506693	24
FEB91	0	2		FEB91	320354	22
MAR91	0	0		MAR91	440363	27
APR91	0	75		APR91	651827	24
MAY91	0	7		MAY91	391938	34
JUN91	0	0		JUN91	0	0

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Cost Center SP
PEN          Units   Dollars
OCT89         3302        45
NOV89         2151        45
DEC89         4404        42
JAN90         4156        47
FEB90         3233        43
MAR90         4987        41
APR90         3002        38
MAY90         3444        41
JUN90         2648        40
JUL90         3273        45
AUG90         4434        55
SEP90         4516        66
OCT90         3068        48
NOV90         3993        51
DEC90         3075        50
JAN91         3475        50
FEB91         2243        42
MAR91         2638        47
APR91         2856        53
MAY91         4325        51
JUN91            0         0
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M.   NRCC PHILADELPHIA

Cost Center GA			Cost Center LP		
PHIL	Units	Dollars	PHIL	Units	Dollars
OCT89	--	298	OCT89	1501	371
NOV89	--	263	NOV89	1017	316
DEC89	--	283	DEC89	618	280
JAN90	--	534	JAN90	2252	357
FEB90	--	236	FEB90	900	305
MAR90	--	301	MAR90	3010	252
APR90	--	356	APR90	1212	206
MAY90	--	237	MAY90	1301	335
JUN90	--	178	JUN90	917	79
JUL90	--	362	JUL90	1234	391
AUG90	--	254	AUG90	1311	386
SEP90	--	303	SEP90	1751	437
OCT90	0	386	OCT90	1742	372
NOV90	0	251	NOV90	1029	353
DEC90	0	340	DEC90	1260	223
JAN91	0	482	JAN91	1521	374
FEB91	0	251	FEB91	1426	286
MAR91	0	177	MAR91	1131	240
APR91	0	282	APR91	1354	390
MAY91	0	301	MAY91	1527	330
JUN91	0	256	JUN91	1454	318

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Cost Center RP                          Cost Center SP
PHIL          Units    Dollars          PHIL          Units    Dollars
OCT89          --        --             OCT89          886        24
NOV89          --        --             NOV89          903        23
DEC89          --        --             DEC89          807        17
JAN90          --        --             JAN90         1438        21
FEB90          --        --             FEB90         1239        24
MAR90          --        --             MAR90          886        17
APR90          --        --             APR90         1087        14
MAY90          --        --             MAY90         1321        23
JUN90          --        --             JUN90          921        14
JUL90          --        --             JUL90          997        17
AUG90          --        --             AUG90          695        17
SEP90          --        --             SEP90         1249        21
OCT90           0         0             OCT90         2033        15
NOV90           0         0             NOV90          592        23
DEC90           0         1             DEC90         1315        12
JAN91           0         0             JAN91          647        28
FEB91           0         0             FEB91          775        11
MAR91           0         7             MAR91          849         2
APR91           0         0             APR91          665        16
MAY91           0         0             MAY91         1047        14
JUN91           0         0             JUN91          673        13
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N. NSC PUGET SOUND

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Cost Center CO                          Cost Center CP
PUGET         Units    Dollars          PUGET         Units    Dollars
OCT89          --        --             OCT89         5667        17
NOV89          --        --             NOV89         5627        15
DEC89          --        --             DEC89         5643        15
JAN90          --        --             JAN90         5637        18
FEB90          --        --             FEB90         5645        12
MAR90          --        --             MAR90         8412        18
APR90          --        --             APR90         5556        18
MAY90          --        --             MAY90         5534        15
JUN90          --        --             JUN90         5530        19
JUL90          --        --             JUL90         5552        16
AUG90          --        --             AUG90         8419        17
SEP90          --        --             SEP90         5633        15
OCT90           0        44             OCT90         5073        20
NOV90           0        27             NOV90         4478        19
DEC90           0        14             DEC90         4510        13
JAN91           0        30             JAN91         4505        16
FEB91           0        22             FEB91         4510        17
MAR91           0        27             MAR91         4513        20
APR91           0        37             APR91         4472        18
MAY91           0        35             MAY91         2268        18
JUN91           0        35             JUN91            0        13
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Cost Center DP				Cost Center FO		
PUGET	Units	Dollars		PUGET	Units	Dollars
OCT89	0	281		OCT89	1567	58
NOV89	--	305		NOV89	1356	55
DEC89	--	187		DEC89	1167	58
JAN90	--	299		JAN90	2120	61
FEB90	--	197		FEB90	1953	44
MAR90	--	760		MAR90	1184	63
APR90	--	182		APR90	993	48
MAY90	--	266		MAY90	1249	67
JUN90	--	316		JUN90	1611	53
JUL90	--	251		JUL90	2977	96
AUG90	--	304		AUG90	2693	84
SEP90	--	286		SEP90	1160	51
OCT90	0	438		OCT90	2118	76
NOV90	0	273		NOV90	2372	80
DEC90	0	455		DEC90	1123	52
JAN91	0	317		JAN91	1666	80
FEB91	0	240		FEB91	1668	80
MAR91	0	314		MAR91	1450	87
APR91	0	322		APR91	1243	86
MAY91	0	222		MAY91	1320	109
JUN91	0	221		JUN91	1521	52

Cost Center GA				Cost Center LP		
PUGET	Units	Dollars		PUGET	Units	Dollars
OCT89	--	945		OCT89	320	105
NOV89	--	531		NOV89	260	123
DEC89	--	496		DEC89	253	93
JAN90	--	848		JAN90	426	134
FEB90	--	430		FEB90	318	101
MAR90	--	520		MAR90	336	124
APR90	--	476		APR90	472	119
MAY90	--	985		MAY90	311	127
JUN90	--	333		JUN90	303	114
JUL90	--	686		JUL90	235	111
AUG90	--	243		AUG90	243	117
SEP90	--	719		SEP90	716	136
OCT90	0	634		OCT90	213	123
NOV90	0	1081		NOV90	153	121
DEC90	0	680		DEC90	342	89
JAN91	0	719		JAN91	398	106
FEB91	0	376		FEB91	513	122
MAR91	0	233		MAR91	263	132
APR91	0	453		APR91	425	147
MAY91	0	452		MAY91	385	169
JUN91	0	673		JUN91	586	146

Cost Center MA				Cost Center PD		
PUGET	Units	Dollars		PUGET	Units	Dollars
OCT89	249963	24		OCT89	68895	638
NOV89	91977	20		NOV89	42467	688
DEC89	87529	18		DEC89	39199	549
JAN90	79528	23		JAN90	52161	749
FEB90	94350	18		FEB90	47593	537
MAR90	83967	23		MAR90	48815	664
APR90	86839	21		APR90	57120	674
MAY90	103577	23		MAY90	52303	654
JUN90	121355	17		JUN90	47507	674
JUL90	89326	23		JUL90	44814	530
AUG90	96044	23		AUG90	53413	647
SEP90	88481	18		SEP90	44389	611
OCT90	235172	19		OCT90	57154	776
NOV90	86188	20		NOV90	49308	634
DEC90	75894	18		DEC90	42523	520
JAN91	85074	20		JAN91	57992	711
FEB91	103547	18		FEB91	45572	596
MAR91	86497	22		MAR91	50923	720
APR91	123106	22		APR91	51802	747
MAY91	85106	26		MAY91	44378	782
JUN91	81667	17		JUN91	39217	553

Cost Center PP				Cost Center RP		
PUGET	Units	Dollars		PUGET	Units	Dollars
OCT89	1364	26		OCT89	--	--
NOV89	1348	28		NOV89	--	--
DEC89	1158	21		DEC89	--	--
JAN90	1673	32		JAN90	--	--
FEB90	1273	27		FEB90	--	--
MAR90	1563	30		MAR90	--	--
APR90	1536	29		APR90	--	--
MAY90	1844	30		MAY90	--	--
JUN90	1765	27		JUN90	--	--
JUL90	1771	29		JUL90	--	--
AUG90	1709	32		AUG90	--	--
SEP90	1525	26		SEP90	--	--
OCT90	1534	32		OCT90	0	77
NOV90	1374	25		NOV90	0	113
DEC90	1151	27		DEC90	0	52
JAN91	1677	32		JAN91	0	206
FEB91	1404	28		FEB91	0	70
MAR91	1276	28		MAR91	0	58
APR91	1507	26		APR91	0	68
MAY91	1781	30		MAY91	0	149
JUN91	1659	24		JUN91	0	65

Cost Center SM			Cost Center SP		
PUGET	Units	Dollars	PUGET	Units	Dollars
OCT89	164915	1	OCT89	9639	157
NOV89	148446	117	NOV89	10308	185
DEC89	154549	2	DEC89	10532	145
JAN90	136351	2	JAN90	13490	200
FEB90	171982	1	FEB90	11923	155
MAR90	162529	1	MAR90	14334	186
APR90	164626	2	APR90	12990	177
MAY90	106012	1	MAY90	14554	181
JUN90	121548	1	JUN90	13365	164
JUL90	134570	1	JUL90	8785	173
AUG90	121905	2	AUG90	14643	202
SEP90	100227	1	SEP90	15395	190
OCT90	147916	1	OCT90	7743	167
NOV90	153505	1	NOV90	8518	149
DEC90	96423	1	DEC90	10981	137
JAN91	108189	117	JAN91	13318	190
FEB91	154997	1	FEB91	11553	192
MAR91	128779	2	MAR91	14404	215
APR91	129719	-9	APR91	14064	199
MAY91	145648	1	MAY91	15504	246
JUN91	127061	2	JUN91	15559	165

O.   NSC SAN DIEGO

Cost Center AH			Cost Center CP		
SAN	Units	Dollars	SAN	Units	Dollars
OCT89	25610	127	OCT89	69876	78
NOV89	24108	146	NOV89	46401	59
DEC89	23991	149	DEC89	46356	67
JAN90	25765	121	JAN90	46304	76
FEB90	23863	158	FEB90	46399	79
MAR90	29537	181	MAR90	46163	77
APR90	25342	124	APR90	45955	66
MAY90	26258	170	MAY90	68610	74
JUN90	26453	170	JUN90	45709	69
JUL90	24843	110	JUL90	45644	73
AUG90	26708	143	AUG90	45517	77
SEP90	21754	149	SEP90	45317	63
OCT90	25798	162	OCT90	64255	73
NOV90	21642	194	NOV90	38613	71
DEC90	18430	124	DEC90	38382	65
JAN91	21780	129	JAN91	38087	74
FEB91	20035	105	FEB91	37981	70
MAR91	20716	137	MAR91	37750	74
APR91	22861	159	APR91	56583	75
MAY91	20832	126	MAY91	38994	77
JUN91	20663	108	JUN91	39351	65

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Cost Center DB			Cost Center DP		
SAN	Units	Dollars	SAN	Units	Dollars
OCT89	16687	12	OCT89	--	556
NOV89	10097	11	NOV89	--	460
DEC89	9761	9	DEC89	--	895
JAN90	9074	12	JAN90	--	544
FEB90	8791	9	FEB90	--	423
MAR90	8584	11	MAR90	--	460
APR90	8866	10	APR90	--	510
MAY90	12429	13	MAY90	--	435
JUN90	8390	11	JUN90	--	349
JUL90	9196	10	JUL90	--	462
AUG90	9373	9	AUG90	--	468
SEP90	10608	9	SEP90	--	484
OCT90	14491	8	OCT90	0	697
NOV90	6528	10	NOV90	0	467
DEC90	6277	8	DEC90	0	951
JAN91	6109	8	JAN91	0	538
FEB91	6035	9	FEB91	0	422
MAR91	6125	9	MAR91	0	424
APR91	8797	11	APR91	0	558
MAY91	5742	13	MAY91	0	475
JUN91	5624	13	JUN91	0	457

Cost Center FO			Cost Center GA		
SAN	Units	Dollars	SAN	Units	Dollars
OCT89	2534	59	OCT89	--	1021
NOV89	1619	54	NOV89	0	1430
DEC89	2808	47	DEC89	--	926
JAN90	2584	52	JAN90	--	1423
FEB90	2159	44	FEB90	--	362
MAR90	3889	53	MAR90	--	344
APR90	4867	53	APR90	--	1260
MAY90	4026	59	MAY90	--	325
JUN90	3337	50	JUN90	--	406
JUL90	2844	52	JUL90	--	1377
AUG90	2080	58	AUG90	--	527
SEP90	2163	60	SEP90	--	2098
OCT90	3124	59	OCT90	0	747
NOV90	3253	50	NOV90	0	729
DEC90	2450	52	DEC90	0	463
JAN91	4817	67	JAN91	0	1296
FEB91	2910	49	FEB91	0	213
MAR91	2699	43	MAR91	0	199
APR91	4208	48	APR91	0	1045
MAY91	3398	62	MAY91	0	390
JUN91	2670	45	JUN91	0	1410

Cost Center MA			Cost Center PD		
SAN	Units	Dollars	SAN	Units	Dollars
OCT89	229911	51	OCT89	184709	1881
NOV89	278810	39	NOV89	190683	1458
DEC89	189822	37	DEC89	165619	1441
JAN90	285658	44	JAN90	201325	1771
FEB90	187353	36	FEB90	185506	1478
MAR90	238621	43	MAR90	219506	1679
APR90	259073	39	APR90	211776	1835
MAY90	253492	44	MAY90	203634	1729
JUN90	204040	36	JUN90	190009	1504
JUL90	180051	34	JUL90	181611	1625
AUG90	248853	45	AUG90	204606	1824
SEP90	167242	33	SEP90	175900	1503
OCT90	267506	35	OCT90	190317	1828
NOV90	210053	42	NOV90	200506	1794
DEC90	160992	39	DEC90	174109	1423
JAN91	198250	29	JAN91	188121	1878
FEB91	189881	37	FEB91	163328	1628
MAR91	172864	36	MAR91	168898	1414
APR91	188689	38	APR91	180594	1910
MAY91	239572	39	MAY91	184368	1552
JUN91	171401	33	JUN91	158730	2404

Cost Center PP			Cost Center RP		
SAN	Units	Dollars	SAN	Units	Dollars
OCT89	5732	116	OCT89	--	--
NOV89	6450	93	NOV89	--	--
DEC89	5554	90	DEC89	--	--
JAN90	6271	93	JAN90	--	--
FEB90	5774	85	FEB90	--	--
MAR90	6060	92	MAR90	--	--
APR90	5978	97	APR90	--	--
MAY90	6949	110	MAY90	--	--
JUN90	7213	96	JUN90	--	--
JUL90	7246	119	JUL90	--	--
AUG90	7236	104	AUG90	--	--
SEP90	5636	90	SEP90	--	--
OCT90	5905	87	OCT90	0	192
NOV90	5335	92	NOV90	0	228
DEC90	5208	108	DEC90	0	166
JAN91	5566	93	JAN91	0	130
FEB91	5541	104	FEB91	0	179
MAR91	6466	94	MAR91	0	138
APR91	6378	89	APR91	0	140
MAY91	7719	105	MAY91	0	64
JUN91	8046	89	JUN91	0	179

Cost Center SM				Cost Center SP		
SAN	Units	Dollars		SAN	Units	Dollars
OCT89	898905	14		OCT89	12173	252
NOV89	998044	7		NOV89	10610	165
DEC89	719821	557		DEC89	10346	161
JAN90	1537933	12		JAN90	13116	190
FEB90	853275	13		FEB90	11330	176
MAR90	918411	13		MAR90	11548	216
APR90	1287131	65		APR90	10544	177
MAY90	1165001	16		MAY90	12494	196
JUN90	1016019	12		JUN90	13572	208
JUL90	1120972	11		JUL90	13210	185
AUG90	1451868	12		AUG90	15077	237
SEP90	1478832	61		SEP90	13956	190
OCT90	1298980	15		OCT90	9692	187
NOV90	1112351	13		NOV90	10057	182
DEC90	874847	106		DEC90	9276	176
JAN91	1697735	59		JAN91	9725	215
FEB91	1056423	101		FEB91	10914	176
MAR91	1006614	367		MAR91	8679	198
APR91	1234550	14		APR91	6021	185
MAY91	1383393	15		MAY91	9012	200
JUN91	984948	-8		JUN91	9599	174

P.   SDCC

Cost Center GA				Cost Center LP		
SDCC	Units	Dollars		SDCC	Units	Dollars
OCT89	--	226		OCT89	1219	416
NOV89	--	325		NOV89	693	302
DEC89	--	313		DEC89	1014	324
JAN90	--	325		JAN90	998	399
FEB90	--	301		FEB90	752	354
MAR90	--	273		MAR90	991	425
APR90	--	259		APR90	747	381
MAY90	--	304		MAY90	831	389
JUN90	--	221		JUN90	1257	352
JUL90	--	331		JUL90	742	361
AUG90	--	207		AUG90	1011	381
SEP90	--	--		SEP90	1848	348
OCT90	0	322		OCT90	1274	348
NOV90	0	277		NOV90	607	326
DEC90	0	378		DEC90	1091	315
JAN91	0	0		JAN91	467	345
FEB91	0	0		FEB91	823	357
MAR91	0	323		MAR91	913	394
APR91	0	323		APR91	623	408
MAY91	0	313		MAY91	816	406
JUN91	0	0		JUN91	0	0

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Cost Center RP
SDCC        Units    Dollars
OCT89        --         --
NOV89        --         --
DEC89        --         --
JAN90        --         --
FEB90        --         --
MAR90        --         --
APR90        --         --
MAY90        --         --
JUN90        --         --
JUL90        --         --
AUG90        --         --
SEP90        --         --
OCT90         0          0
NOV90         0          0
DEC90         0          0
JAN91         0          0
FEB91         0          0
MAR91         0          0
APR91         0          0
MAY91         0          0
JUN91         0          0
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Q. SHIPS PARTS CONTROL CENTER

Cost Center AP			Cost Center CP		
SPCC	Units	Dollars	SPCC	Units	Dollars
OCT89	16694	227	OCT89	12693	23
NOV89	16694	228	NOV89	12694	23
DEC89	18281	200	DEC89	12678	23
JAN90	17143	195	JAN90	12588	25
FEB90	18992	244	FEB90	12480	27
MAR90	18785	231	MAR90	18729	26
APR90	14401	207	APR90	12404	27
MAY90	14654	197	MAY90	12411	23
JUN90	21250	196	JUN90	12417	23
JUL90	14248	164	JUL90	12450	31
AUG90	20254	177	AUG90	18592	34
SEP90	13821	129	SEP90	12189	37
OCT90	14352	260	OCT90	12208	34
NOV90	14941	223	NOV90	12178	33
DEC90	18697	167	DEC90	17437	24
JAN91	15615	218	JAN91	11634	32
FEB91	17874	212	FEB91	11625	30
MAR91	17698	230	MAR91	11632	24
APR91	16260	331	APR91	11527	29
MAY91	16972	254	MAY91	11507	36
JUN91	16324	188	JUN91	17458	18

Cost Center DB			Cost Center DP		
SPCC	Units	Dollars	SPCC	Units	Dollars
OCT89	10302	25	OCT89	--	1291
NOV89	10302	24	NOV89	--	1291
DEC89	8195	25	DEC89	--	1290
JAN90	7513	21	JAN90	--	1569
FEB90	6752	29	FEB90	--	1174
MAR90	9712	28	MAR90	--	1116
APR90	7453	24	APR90	--	745
MAY90	9200	26	MAY90	--	1177
JUN90	7248	22	JUN90	--	1277
JUL90	7462	20	JUL90	--	712
AUG90	7518	21	AUG90	--	1171
SEP90	7581	19	SEP90	--	1223
OCT90	7929	19	OCT90	0	1310
NOV90	7860	16	NOV90	0	1268
DEC90	5778	14	DEC90	0	1169
JAN91	5570	17	JAN91	0	1504
FEB91	4688	16	FEB91	0	1051
MAR91	6536	15	MAR91	0	1248
APR91	4583	17	APR91	0	1239
MAY91	6094	17	MAY91	0	1197
JUN91	4472	9	JUN91	0	732

Cost Center GA			Cost Center IC		
SPCC	Units	Dollars	SPCC	Units	Dollars
OCT89	--	4851	OCT89	63897	1163
NOV89	--	4851	NOV89	63896	1162
DEC89	--	4837	DEC89	63875	1241
JAN90	--	4638	JAN90	63863	1226
FEB90	--	4633	FEB90	63855	1475
MAR90	--	4679	MAR90	63831	1691
APR90	--	4421	APR90	64141	1179
MAY90	--	4268	MAY90	64144	1316
JUN90	--	4162	JUN90	64345	1241
JUL90	--	4874	JUL90	64451	1187
AUG90	--	4176	AUG90	64827	1397
SEP90	--	4968	SEP90	64177	1346
OCT90	0	5380	OCT90	64299	1423
NOV90	0	4665	NOV90	64395	1412
DEC90	0	5068	DEC90	63924	1066
JAN91	0	4892	JAN91	64058	1335
FEB91	0	3482	FEB91	64235	1394
MAR91	0	3721	MAR91	64244	1423
APR91	0	3369	APR91	64534	1468
MAY91	0	3260	MAY91	64325	1591
JUN91	0	4397	JUN91	64276	1119

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Cost Center IF                          Cost Center LP
SPCC        Units    Dollars            SPCC         Units    Dollars
OCT89      128031        897            OCT89         1552        646
NOV89      106054        898            NOV89          943        647
DEC89       66060        801            DEC89         1245        526
JAN90       90313        787            JAN90          855        541
FEB90       50836        987            FEB90         1397        777
MAR90      157961        986            MAR90         1736        677
APR90       56786        848            APR90         1113        649
MAY90       61459        843            MAY90         1856        672
JUN90       95795        862            JUN90         1713        613
JUL90       68770        778            JUL90         1429        533
AUG90       97480        822            AUG90         1799        570
SEP90       79331        799            SEP90         3262        639
OCT90      100306       1056            OCT90          802        723
NOV90       86159        944            NOV90          380        578
DEC90       67824        688            DEC90         1451        476
JAN91      120135        947            JAN91         1107        600
FEB91      111922        909            FEB91         1389        683
MAR91       66933        983            MAR91         1634        678
APR91       55815        968            APR91         1606        714
MAY91       55583       1090            MAY91         1472        830
JUN91       69867        743            JUN91         1116        503


Cost Center MA                          Cost Center PR
SPCC        Units    Dollars            SPCC         Units    Dollars
OCT89      708941        322            OCT89        35927        104
NOV89      708941        322            NOV89        35927        103
DEC89      535423        294            DEC89        16574         89
JAN90      741783        296            JAN90        33339         91
FEB90      719054        370            FEB90        24001        112
MAR90      629678        369            MAR90        31423        121
APR90      550101        340            APR90        47368         51
MAY90      628711        368            MAY90        22141         82
JUN90      559801        325            JUN90        36156         87
JUL90      689638        321            JUL90        26696         83
AUG90      899414        367            AUG90        19078        151
SEP90      649426        341            SEP90        25680         99
OCT90      805658        352            OCT90        13776         91
NOV90      786793        352            NOV90        34061        102
DEC90      594952        242            DEC90        29687         87
JAN91      651930        326            JAN91       134953         85
FEB91      592617        348            FEB91       146977         81
MAR91      607807        350            MAR91        83537         95
APR91      557728        377            APR91        30372         85
MAY91      618901        408            MAY91        45348        104
JUN91      542699        295            JUN91        20816         84
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Cost Center QT			Cost Center RP		
SPCC	Units	Dollars	SPCC	Units	Dollars
OCT89	--	--	OCT89	--	--
NOV89	--	--	NOV89	--	--
DEC89	--	--	DEC89	--	--
JAN90	--	--	JAN90	--	--
FEB90	--	--	FEB90	--	--
MAR90	--	--	MAR90	--	--
APR90	--	--	APR90	--	--
MAY90	--	--	MAY90	--	--
JUN90	--	--	JUN90	--	--
JUL90	--	--	JUL90	--	--
AUG90	--	--	AUG90	--	--
SEP90	--	--	SEP90	--	--
OCT90	0	394	OCT90	0	202
NOV90	0	270	NOV90	0	161
DEC90	0	263	DEC90	0	106
JAN91	0	284	JAN91	0	173
FEB91	0	331	FEB91	0	178
MAR91	0	330	MAR91	0	200
APR91	0	337	APR91	0	280
MAY91	0	373	MAY91	0	266
JUN91	0	272	JUN91	0	149

Cost Center SP		
SPCC	Units	Dollars
OCT89	2780	271
NOV89	4789	272
DEC89	4032	211
JAN90	4752	218
FEB90	4431	294
MAR90	5784	298
APR90	5578	284
MAY90	5141	311
JUN90	4354	309
JUL90	5039	297
AUG90	6259	335
SEP90	7875	290
OCT90	3319	273
NOV90	4346	251
DEC90	4344	228
JAN91	5376	297
FEB91	6472	295
MAR91	7089	335
APR91	7143	317
MAY91	5854	326
JUN91	4454	264

R.   NRFC WASHINGTON D.C.

Cost Center GA WASH	Units	Dollars		Cost Center LP WASH	Units	Dollars
OCT89	--	264		OCT89	1756	315
NOV89	0	129		NOV89	638	249
DEC89	--	112		DEC89	533	220
JAN90	--	244		JAN90	924	265
FEB90	--	115		FEB90	597	201
MAR90	--	154		MAR90	1361	229
APR90	--	246		APR90	930	252
MAY90	--	313		MAY90	556	141
JUN90	--	130		JUN90	687	89
JUL90	--	241		JUL90	468	158
AUG90	--	169		AUG90	628	156
SEP90	--	301		SEP90	1212	155
OCT90	0	269		OCT90	1187	365
NOV90	0	145		NOV90	679	242
DEC90	0	163		DEC90	813	255
JAN91	0	0		JAN91	724	330
FEB91	0	0		FEB91	662	210
MAR91	0	120		MAR91	704	201
APR91	0	261		APR91	468	219
MAY91	0	142		MAY91	624	152
JUN91	0	0		JUN91	0	0

Cost Center RP WASH	Units	Dollars		Cost Center SP WASH	Units	Dollars
OCT89	--	--		OCT89	1817	38
NOV89	--	--		NOV89	2816	35
DEC89	--	--		DEC89	3059	31
JAN90	--	--		JAN90	1781	42
FEB90	--	--		FEB90	1652	33
MAR90	--	--		MAR90	2275	35
APR90	--	--		APR90	1442	45
MAY90	--	--		MAY90	1772	39
JUN90	--	--		JUN90	1901	36
JUL90	--	--		JUL90	1883	40
AUG90	--	--		AUG90	2563	39
SEP90	--	--		SEP90	2376	38
OCT90	0	0		OCT90	1959	41
NOV90	0	0		NOV90	2284	27
DEC90	0	0		DEC90	1411	33
JAN91	0	0		JAN91	480	46
FEB91	0	0		FEB91	2135	28
MAR91	0	0		MAR91	1662	30
APR91	0	0		APR91	1350	40
MAY91	0	0		MAY91	1686	33
JUN91	0	0		JUN91	0	0

APPENDIX C

Critical Values for the t Distribution for a two tailed test with a rejection region of .05, of the data analyzed.

Number of Observations	Degrees of Freedom	Critical Values .05 level two-tailed test
3	1	12.706
4	2	4.303
5	3	3.182
6	4	2.776
7	5	2.571
8	6	2.447
9	7	2.365
10	8	2.306
11	9	2.262
12	10	2.228
13	11	2.201
14	12	2.179
15	13	2.160
16	14	2.145
17	16	2.131
18	17	2.120
19	18	2.110
20	19	2.101
21	20	2.093

Source: [Ref 5: p.635]

Each page in this appendix consists of a unique cost center with its associated Units and Dollars columns from Appendix A. The two columns to the right of Units and Dollars and beginning with the OCT90 row represent the deseasonalized Units and Dollars columns, respectively. The figure just under "AVG" is the average monthly productive units of fiscal year 1990. The column labeled INDEX depicts the monthly seasonal index for that particular cost center. The two tables contained in the middle of the page contain the regression output for fiscal year 1991 data only. Although zeros and negative values may be shown in the data they were ignored in the analyses.

```
Cost Center FR
NPFC          Units   Dollars
OCT89         38005       93
NOV89         31360       57
DEC89        102424       80
JAN90        130544       41
FEB90        101487       67
MAR90         87379       83
APR90         75446       69
MAY90        108317       75
JUN90        103627       45
JUL90        117025      101
AUG90         91957       46
SEP90        101204       77
OCT90             0        0         0.0000    0.0000
NOV90        184179      158   532869.6076  457.1281
DEC90        122845       65   108820.9834   57.5796
JAN91         65743       67    45692.9814   46.5666
FEB91         92864       75    83022.1289   67.0514
MAR91        111270       80   115538.8158   83.0692
APR91         13216        8    15893.5424    9.6208
MAY91         74956      102    62786.5577   85.4398
JUN91         98425       61    86176.6073   53.4089
```

AVG
  90731.25   Deseasonalized Data for FY 91
                                    Regression Output:
```
INDEX                       Constant                        -5.0979832415
0.41887442 OCT              Std Err of Y Est                 21.706504815
0.34563615 NOV              R Squared                        0.9803227973
1.12887235 DEC              No. of Observations                         8
1.43879864 JAN              Degrees of Freedom                          6
1.11854515 FEB
0.96305297 MAR              X Coefficient(s)         0.000857
0.83153268 APR              Std Err of Coef.         0.000049
1.19382241 MAY              t statistic             17.28934
1.14213129 JUN
1.28979816 JUL              Y= -5.0979832415      +     0.0008571062 X
1.01350967 AUG
1.11542605 SEP
```

                            Unseasonalized Data for FY 91
                                Regression Output:
```
                            Constant                         7.6362740707
                            Std Err of Y Est                 24.166880404
                            R Squared                        0.7187617455
                            No. of Observations                         8
                            Degrees of Freedom                          6

                            X Coefficient(s)         0.000726
                            Std Err of Coef.         0.000185
                            t statistic              3.915893
                            Y=  7.6362740707      +     0.0007267993 X
```

.

```
Cost Center LP
ASO             Units  Dollars
OCT89               0     575
NOV89             160     611
DEC89             258     479
JAN90            2024     617
FEB90            3414     645
MAR90            1895     729
APR90            1599     646
MAY90            2270     664
JUN90            2608     595
JUL90            4575     482
AUG90            3468     612
SEP90           10255      16
OCT90            1701     733
NOV90            1403     705  25010.66 12567.72
DEC90             616     428  6810.023 4731.639
JAN91            2484     750  3500.488 1056.910
FEB91            2168     597  1811.270 498.7677
MAR91            3142     603  4729.165 907.6025
APR91            1983     847  3537.218 1510.854
MAY91            2226     683  2796.964 858.1879
JUN91            1739     511  1901.864 558.8572
```

```
AVG
  2852.25                        Deseasonalized Data for FY 91
                                 Regression Output:
INDEX                  Constant                        -475.77752
         -- OCT        Std Err of Y Est                 816.383616
0.05609606 NOV         R Squared                        0.96708719
0.09045490 DEC         No. of Observations                       8
0.70961521 JAN         Degrees of Freedom                        6
1.19694977 FEB
0.66438776 MAR         X Coefficient(s)  0.528902
0.56061004 APR         Std Err of Coef.  0.039833
0.79586291 MAY         t                 13.27779
0.91436585 JUN
1.60399684 JUL         Y= -475.777      +     0.52890225 X
1.21588219 AUG
3.59540713 SEP
0.59637128 OCT                   Unseasonalized Data for FY 91
                                 Regression Output:
                       Constant                        491.724168
                       Std Err of Y Est                131.208251
                       R Squared                       0.17906256
                       No. of Observations                      8
                       Degrees of Freedom                       6

                       X Coefficient(s)  0.075515
                       Std Err of Coef.  0.066010
                       t                 1.143992
                       Y= 491.7241      +     0.07551593 X
```

                                    .

84

```
Cost Center  LP
PEARL            Units    Dollars
OCT89              381        84
NOV89               45        69
DEC89                8        60
JAN90              112        73
FEB90              127        80
MAR90              192        73
APR90              152        77
MAY90              194        85
JUN90              158        83
JUL90              164        72
AUG90              183        94
SEP90              223       109
OCT90              234       100        99.2402     42.4103
NOV90               75        89       269.3056    319.5759
DEC90              124        68      2504.5417   1373.4583
JAN91               40        93        57.7083    134.1719
FEB91              115        95       146.3156    120.8694
MAR91               52        91        43.7622     76.5838
APR91               91        90        96.7374     95.6743
MAY91               92        98        76.6271     81.6246
JUN91              387        90       395.7769     92.0411

AVG
161.583333                        Deseasonalized Data for FY 91
                                     Regression Output:
INDEX                    Constant                            43.816095091
2.35791645 OCT           Std Err of Y Est                    84.764269396
0.27849406 NOV           R Squared                           0.9652310377
0.04951005 DEC           No. of Observations                            9
0.69314079 JAN           Degrees of Freedom                             7
0.78597215 FEB
1.18824136 MAR           X Coefficient(s)          0.5263027
0.94069107 APR           Std Err of Coef.          0.0377543
1.20061887 MAY           t statistic              13.940193
0.97782362 JUN
1.01495616 JUL           Y=  43.816095091       +      0.5263027078 X
1.13254254 AUG
1.38009283 SEP
                                  Unseasonalized Data for FY 91
                                     Regression Output:
                         Constant                            89.776913397
                         Std Err of Y Est                    9.8548605651
                         R Squared                           0.0035095381
                         No. of Observations                            9
                         Degrees of Freedom                             7

                         X Coefficient(s)          0.0049651
                         Std Err of Coef.          0.0316221
                         t statistic               0.1570136
                         Y=  89.776913397       +      0.004965107 X

                                        .
```

```
Cost Center  CP
NRFC           Units   Dollars
OCT89          86884      151
NOV89          85762      131
DEC89         128965      192
JAN90          86093      118
FEB90          85538      156
MAR90          84822      134
APR90          84120      131
MAY90          83650      134
JUN90          83588      210
JUL90         102107       92
AUG90          83357      126
SEP90         103209      164
OCT90          54647      105    57555.2820 110.5880
NOV90          67939      129    72490.8042 137.6428
DEC90         109265      186    77529.6593 131.9775
JAN91          72805      131    77384.1529 139.2394
FEB91          76413      131    81746.0595 140.1428
MAR91          71152      135    76760.4075 145.6411
APR91          71022      134    77259.5727 145.7687
MAY91          70851      136    77506.6038 148.7756
JUN91         107324      205   117492.8895 224.4236

AVG
91507.9166                    Deseasonalized Data for FY 91
                                Regression Output:
INDEX                     Constant                        -5.2344796884
0.94946976 OCT            Std Err of Y Est                 7.4670964492
0.93720852 NOV            R Squared                          0.94961943
1.40933161 DEC            No. of Observations                        9
0.94082570 JAN            Degrees of Freedom                         7
0.93476065 FEB
0.92693619 MAR            X Coefficient(s)       0.001915
0.91926472 APR            Std Err of Coef.       0.000166
0.91412855 MAY            t statistic           11.48662
0.91345102 JUN
1.11582695 JUL            Y= -5.2344796884       +      0.0019159719 X
0.91092665 AUG
1.12786962 SEP
                              Unseasonalized Data for FY 91
                                Regression Output:
                          Constant                        13.4726991921
                          Std Err of Y Est                 7.5707705512
                          R Squared                        0.9486425302
                          No. of Observations                        9
                          Degrees of Freedom                         7

                          X Coefficient(s)       0.001669
                          Std Err of Coef.       0.000146
                          t statistic           11.37099
                          Y= 13.4726991921       +      0.0016691127 X
```

```
Cost Center   IC
NPFC          Units   Dollars
OCT89         9167      80
NOV89         9093     102
DEC89         9110      72
JAN90         9062      86
FEB90         9025      82
MAR90         9049     119
APR90         9078     116
MAY90         8945     141
JUN90         8719      92
JUL90         8992      97
AUG90         9019     110
SEP90         8797      57
OCT90            0       0        0.0000     0.0000
NOV90        17661     195    17489.4334   193.1057
DEC90         8326      67     8229.7316    66.2253
JAN91         8430      93     8376.6652    92.4116
FEB91         8565      69     8545.7030    68.8445
MAR91         8260      88     8219.5322    87.5689
APR91         8491      94     8422.4085    93.2407
MAY91         8486      94     8542.6050    94.6270
JUN91         8391      72     8665.9202    74.3590
```

```
AVG
9004.66666                         Deseasonalized Data for FY 91
                                       Regression Output:
INDEX                          Constant                      -20.109939597
1.01802768 OCT                 Std Err of Y Est               12.5338071323
1.00980972 NOV                 R Squared                       0.9188450622
1.01169763 DEC                 No. of Observations                        8
1.00636706 JAN                 Degrees of Freedom                         6
1.00225808 FEB
1.00492337 MAR                 X Coefficient(s)          0.012174
1.00814392 APR                 Std Err of Coef.          0.001477
0.99337380 MAY                 t statistic               8.242126
0.96827570 JUN
0.99859332 JUL                 Y= -20.109939597      +      0.0121746354 X
1.00159176 AUG
0.97693788 SEP
                                   Unseasonalized Data for FY 91
                                       Regression Output:
                               Constant                      -20.146436541
                               Std Err of Y Est               12.4681832404
                               R Squared                       0.9224402495
                               No. of Observations                        8
                               Degrees of Freedom                         6

                               X Coefficient(s)          0.012180
                               Std Err of Coef.          0.001441
                               t statistic               8.447467
                               Y= -20.146436541      +      0.0121808053 X
```

```
Cost Center  LP
OAK            Units   Dollars
OCT89            89       55
NOV89             9       49
DEC89            27       44
JAN90           103       45
FEB90            63       58
MAR90            77       17
APR90            60       49
MAY90            41       39
JUN90            49       43
JUL90            60       48
AUG90            50       60
SEP90           230       42
OCT90            25       49        20.0843   39.3652
NOV90            55       51       436.9444  405.1667
DEC90            13       36        34.4259   95.3333
JAN91            84       49        58.3107   34.0146
FEB91            18       43        20.4286   48.8016
MAR91           114       45       105.8571   41.7857
APR91            59       53        70.3083   63.1583
MAY91            94       67       163.9268  116.8415
JUN91             0       49         0.0000   71.5000
```

```
AVG
      71.5                        Deseasonalized Data for FY 91
                                  Regression Output:
INDEX                      Constant                          8.3267767042
1.24475524 OCT             Std Err of Y Est                 39.675110368
0.12587412 NOV             R Squared                         0.9130188143
0.37762237 DEC             No. of Observations                          8
1.44055944 JAN             Degrees of Freedom                           6
0.88111888 FEB
1.07692307 MAR             X Coefficient(s)      0.854514
0.83916083 APR             Std Err of Coef.      0.107675
0.57342657 MAY             t statistic           7.936021
0.68531468 JUN
0.83916083 JUL             Y=  8.3267767042    +     0.8545143487 X
0.69930069 AUG
3.21678321 SEP
                                  Unseasonalized Data for FY 91
                                  Regression Output:
                           Constant                         41.798682805
                           Std Err of Y Est                  8.2325125568
                           R Squared                         0.2801140465
                           No. of Observations                          8
                           Degrees of Freedom                           6

                           X Coefficient(s)      0.126862
                           Std Err of Coef.      0.083027
                           t statistic           1.527957
                           Y=  41.798682805   +     0.1268626354 X
```

```
Cost Center   SP
OAK              Units   Dollars
OCT89            3565       98
NOV89            5047      102
DEC89            4472       91
JAN90            4955       94
FEB90            4316      107
MAR90            5363      137
APR90            4535      113
MAY90            3159       85
JUN90            3911      121
JUL90            3828       80
AUG90            3972      112
SEP90            5024       98
OCT90            4409      100    5374.3834 121.8957
NOV90            3131      105    2695.8632  90.4074
DEC90            2829       78    2749.0285  75.7951
JAN91            4233      108    3712.3823  94.7171
FEB91            4179      104    4207.6443 104.7129
MAR91            4291      124    3476.9528 100.4759
APR91            4212      119    4036.0743 114.0296
MAY91            4450      119    6121.5087 163.6988
JUN91               0      100       0.0000 111.1118
```

```
AVG
4345.58333                     Deseasonalized Data for FY 91
                                   Regression Output:
INDEX                   Constant                        24.488253732
0.82037317 OCT          Std Err of Y Est                10.2018535554
1.16140909 NOV          R Squared                        0.8731257895
1.02909083 DEC          No. of Observations                         8
1.14023817 JAN          Degrees of Freedom                          6
0.99319232 FEB
1.23412660 MAR          X Coefficient(s)        0.020690
1.04358831 APR          Std Err of Coef.        0.003219
0.72694498 MAY          t statistic             6.425802
0.89999424 JUN
0.88089439 JUL          Y=   24.488253732    +      0.0206903623 X
0.91403148 AUG
1.15611636 SEP
                               Unseasonalized Data for FY 91
                                   Regression Output:
                        Constant                        40.426490871
                        Std Err of Y Est                10.9284734915
                        R Squared                        0.5161041971
                        No. of Observations                         8
                        Degrees of Freedom                          6

                        X Coefficient(s)        0.016814
                        Std Err of Coef.        0.006646
                        t statistic             2.529696
                        Y=   40.426490871    +      0.016814397 X
```

```
Cost Center  LP
NAP             Units   Dollars
OCT89             456       143
NOV89             192       142
DEC89             329       134
JAN90             788       139
FEB90             365       145
MAR90             866       148
APR90             533       141
MAY90             215       168
JUN90             665       151
JUL90             491       159
AUG90              82       201
SEP90             575       144
OCT90             572       236       580.8852 239.6659
NOV90             373       214       899.6359 516.1450
DEC90             980       377      1379.3972 530.6456
JAN91             668       299       392.5630 175.7131
FEB91             429       207       544.2815 262.6253
MAR91             446       295       238.4933 157.7478
APR91              96       186        83.4071 161.6013
MAY91             303       154       652.6244 331.6969
JUN91             533       215       371.1630 149.7187

AVG
463.083333                     Deseasonalized Data for FY 91
                                  Regression Output:
INDEX                   Constant                        75.17378364
0.98470397 OCT          Std Err of Y Est                61.267945288
0.41461220 NOV          R Squared                       0.8540190789
0.71045528 DEC          No. of Observations                       9
1.70163757 JAN          Degrees of Freedom                        7
0.78819506 FEB
1.87007378 MAR          X Coefficient(s)      0.359555
1.15098074 APR          Std Err of Coef.      0.056186
0.46427928 MAY          t statistic           6.399333
1.43602663 JUN
1.06028432 JUL          Y=    75.17378364     +    0.3595553426 X
0.17707396 AUG
1.24167716 SEP
                              Unseasonalized Data for FY 91
                                  Regression Output:
                        Constant                       126.547188161
                        Std Err of Y Est                38.451933047
                        R Squared                       0.7271630344
                        No. of Observations                       9
                        Degrees of Freedom                        7

                        X Coefficient(s)      0.237289
                        Std Err of Coef.      0.054937
                        t statistic           4.319299
                        Y= 126.547188161      +    0.2372898424 X
```

```
Cost Center   FO
SAN           Units   Dollars
OCT89          2534      59
NOV89          1619      54
DEC89          2808      47
JAN90          2584      52
FEB90          2159      44
MAR90          3889      53
APR90          4867      53
MAY90          4026      59
JUN90          3337      50
JUL90          2844      52
AUG90          2080      58
SEP90          2163      60
OCT90          3124      59      3586.5180    67.7351
NOV90          3253      50      5845.2867    89.8446
DEC90          2450      52      2538.2686    53.8735
JAN91          4817      67      5423.1640    75.4312
FEB91          2910      49      3921.1093    66.0256
MAR91          2699      43      2018.9871    32.1662
APR91          4208      48      2515.2606    28.6912
MAY91          3398      62      2455.3771    44.8009
JUN91          2670      45      2327.6820    39.2306

AVG
2909.16666                      Deseasonalized Data for FY 91
                                   Regression Output:
INDEX                      Constant                        8.7294060347
0.87103981 OCT             Std Err of Y Est                 8.555253799
0.55651675 NOV             R Squared                       0.8528566703
0.96522486 DEC             No. of Observations                        9
0.88822686 JAN             Degrees of Freedom                         7
0.74213692 FEB
1.33680893 MAR             X Coefficient(s)        0.013686
1.67298768 APR             Std Err of Coef.        0.002148
1.38390146 MAY             t statistic             6.369667
1.14706387 JUN
0.97759954 JUL             Y=   8.7294060347      +     0.0136863011 X
0.71498138 AUG
0.74351188 SEP

                                Unseasonalized Data for FY 91
                                   Regression Output:
                           Constant                       32.203461303
                           Std Err of Y Est               6.9579105157
                           R Squared                      0.3576266468
                           No. of Observations                        9
                           Degrees of Freedom                         7

                           X Coefficient(s)        0.006270          1 *
                           Std Err of Coef.        0.003176          0 *
                           t statistic             1.974104
                           Y=   32.203461303      +      0.0062707456 X

                                      .
```

```
Cost Center   FR
GLAKE            Units   Dollars
OCT89           160482     105
NOV89           146624     102
DEC89           179558     107
JAN90           179558     108
FEB90           209426     110
MAR90           165783     107
APR90           179250      98
MAY90           168791     106
JUN90           162523      94
JUL90           145635     103
AUG90           102215      97
SEP90           114253     103
OCT90           180859     110    179761.5154 109.3325
NOV90           225956     136    245811.2404 147.9506
DEC90           208091     106    184855.1104  94.1638
JAN91           222354     119    197525.4731 105.7122
FEB91           194469     110    148116.2495  83.7809
MAR91           198940     116    191410.1849 111.6094
APR91           214086     115    190507.4777 102.3344
MAY91           211780     110    200132.9427 103.9504
JUN91                0       0         0.0000   0.0000

AVG
159508.166                       Deseasonalized Data for FY 91
                                    Regression Output:
INDEX                       Constant                       -14.939853670
1.00610522 OCT              Std Err of Y Est                 7.825084052
0.91922566 NOV              R Squared                        0.8493837681
1.12569784 DEC              No. of Observations                         8
1.12569784 JAN              Degrees of Freedom                          6
1.31294844 FEB
1.03933863 MAR              X Coefficient(s)        0.000636
1.12376691 APR              Std Err of Coef.        0.000109
1.05819660 MAY              t statistic             5.816901
1.01890080 JUN
0.91302535 JUL              Y= -14.939853670        +     0.0006360707 X
0.64081358 AUG
0.71628307 SEP
                                Unseasonalized Data for FY 91
                                    Regression Output:
                            Constant                        34.910363676
                            Std Err of Y Est                 7.9210940953
                            R Squared                        0.3863693725
                            No. of Observations                         8
                            Degrees of Freedom                          6

                            X Coefficient(s)        0.000387
                            Std Err of Coef.        0.000199
                            t statistic             1.943674
                            Y=   34.910363676       +     0.0003879888 X
```

```
Cost Center  SP
PEN             Units   Dollars
OCT89           3302       45
NOV89           2151       45
DEC89           4404       42
JAN90           4156       47
FEB90           3233       43
MAR90           4987       41
APR90           3002       38
MAY90           3444       41
JUN90           2648       40
JUL90           3273       45
AUG90           4434       55
SEP90           4516       66
OCT90           3068       48     3371.9816    52.7559
NOV90           3993       51     6736.9886    86.0472
DEC90           3075       50     2533.9890    41.2031
JAN91           3475       50     3034.4933    43.6618
FEB91           2243       42     2517.8536    47.1466
MAR91           2638       47     1919.7397    34.2031
APR91           2856       53     3452.6649    64.0726
MAY91           4325       51     4557.5336    53.7420
JUN91              0        0        0.0000     0.0000
```

```
AVG
3629.16666                      Deseasonalized Data for FY 91
                                   Regression Output:
INDEX                       Constant                           18.51418549
0.90985074 OCT              Std Err of Y Est                   6.845146774
0.59269804 NOV              R Squared                          0.8462992163
1.21350172 DEC              No. of Observations                          8
1.14516647 JAN              Degrees of Freedom                           6
0.89083811 FEB
1.37414466 MAR              X Coefficient(s)         0.0097676
0.82718714 APR              Std Err of Coef.         0.0016993
0.94897818 MAY              t statistic              5.7477722
0.72964408 JUN
0.90185993 JUL              Y=    18.51418549     +        0.0097676926 X
1.22176808 AUG
1.24436280 SEP
                                  Unseasonalized Data for FY 91
                                    Regression Output:
                            Constant                          38.886861851
                            Std Err of Y Est                   2.7900353304
                            R Squared                          0.4161777141
                            No. of Observations                          8
                            Degrees of Freedom                           6

                            X Coefficient(s)         0.0031513
                            Std Err of Coef.         0.0015237
                            t statistic              2.0681150
                            Y=   38.886861851     +       0.0031513693 X
```

```
Cost Center  PD
NPFC          Units   Dollars
OCT89        162639     409
NOV89        154851     327
DEC89        121266     301
JAN90        138920     341
FEB90        147120     466
MAR90        184296     277
APR90        156738     391
MAY90        144038     360
JUN90        151208     135
JUL90        144869     434
AUG90        151590     298
SEP90        108493     271
OCT90             0       0        0.0000    0.0000
NOV90        302383     725   287382.0881  689.0335
DEC90        118600     233   143933.5296  282.7699
JAN91        141455     448   149854.5270  474.6020
FEB91        133832     404   133876.5743  404.1346
MAR91        176688     354   141093.6552  282.6856
APR91        183398     476   172201.3823  446.9398
MAY91        165446     407   169042.3525  415.8471
JUN91        128976     362   125530.8512  352.3304
```

```
AVG
    147169                        Deseasonalized Data for FY 91
                                     Regression Output:
INDEX                       Constant                        52.780155958
1.10511724 OCT              Std Err of Y Est                 66.52347524
1.05219849 NOV              R Squared                       0.7761281678
0.82399146 DEC              No. of Observations                        8
0.94394879 JAN              Degrees of Freedom                         6
0.99966704 FEB
1.25227459 MAR              X Coefficient(s)        0.002211
1.06502048 APR              Std Err of Coef.        0.000484
0.97872513 MAY              t statistic             4.560816
1.02744463 JUN
0.98437170 JUL              Y=  52.780155958      +    0.0022118592 X
1.03004029 AUG
0.73720008 SEP
                                   Unseasonalized Data for FY 91
                                     Regression Output:
                            Constant                        59.435007227
                            Std Err of Y Est                65.302989482
                            R Squared                       0.8169212323
                            No. of Observations                        8
                            Degrees of Freedom                         6

                            X Coefficient(s)        0.002171
                            Std Err of Coef.        0.000419
                            t statistic             5.174241
                            Y=  59.435007227      +    0.0021717262 X
```

```
Cost Center  MA
NPFC           Units   Dollars
OCT89           2791      12
NOV89           5221      13
DEC89           7953      16
JAN90          10115       5
FEB90          11583      13
MAR90          11889      14
APR90          14119      16
MAY90          10472       8
JUN90          10448      10
JUL90          10125       3
AUG90           9664      18
SEP90           9547      11
OCT90              0       0      0.0000     0.0000
NOV90          15473      23  28136.2522    41.8234
DEC90           3126      10   3731.6715    11.9375
JAN91           8578       7   8051.2919     6.5702
FEB91          18020      10  14769.9541     8.1964
MAR91          13010      10  10389.0870     7.9855
APR91          99494      67  66901.8872    45.0522
MAY91          13415      14  12162.0409    12.6924
JUN91          11198       9  10175.4287     8.1781
```

```
AVG
9493.91666                      Deseasonalized Data for FY 91
                                   Regression Output:
INDEX                       Constant                         4.8292557768
0.29397772 OCT              Std Err of Y Est                 8.6994926194
0.54993109 NOV              R Squared                        0.7459663505
0.83769431 DEC              No. of Observations                         8
1.06541908 JAN              Degrees of Freedom                          6
1.22004441 FEB
1.25227558 MAR              X Coefficient(s)        0.000672
1.48716283 APR              Std Err of Coef.        0.000160
1.10302211 MAY              t statistic             4.197489
1.10049417 JUN
1.06647239 JUL              Y=  4.8292557768      +           0.00067265 X
1.01791498 AUG
1.00559129 SEP

                                Unseasonalized Data for FY 91
                                   Regression Output:
                            Constant                         4.4990484643
                            Std Err of Y Est                  4.94027044
                            R Squared                        0.9482826657
                            No. of Observations                         8
                            Degrees of Freedom                          6

                            X Coefficient(s)        0.000625
                            Std Err of Coef.        0.000059
                            t statistic             10.48881
                            Y=  4.4990484643      +        0.0006253366 X
```

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```
Cost Center  FR
CHASN          Units   Dollars
OCT89         112809     107
NOV89          94303      92
DEC89         151065      78
JAN90         139682     108
FEB90         143820      97
MAR90         149284     109
APR90         155285     106
MAY90         154732     114
JUN90         140541     100
JUL90         127563     104
AUG90         166125     115
SEP90         152337     103
OCT90         146761     122    182953.7378 152.0864
NOV90         141075      91    210377.3227 135.7033
DEC90         129199      72    120273.4229  67.0260
JAN91         126695     102    127553.8011 102.6914
FEB91         127508      93    124678.7740  90.9365
MAR91         139408     103    131325.4227  97.0283
APR91         127178     102    115174.6387  92.3730
MAY91         139654     112    126925.1292 101.7917
JUN91         133356     103    133439.3430 103.0644

AVG
140628.833                    Deseasonalized Data for FY 91
                                Regression Output:
INDEX                     Constant                       10.9007460559
0.80217546 OCT            Std Err of Y Est               13.699444433
0.67058083 NOV            R Squared                      0.7394131913
1.07421071 DEC            No. of Observations                        9
0.99326714 JAN            Degrees of Freedom                         7
1.02269212 FEB
1.06154617 MAR            X Coefficient(s)      0.000663
1.10421878 APR            Std Err of Coef.      0.000148
1.10028645 MAY            t statistic           4.456730
0.99937542 JUN
0.90708994 JUL            Y= 10.9007460559      +     0.000663623 X
1.18130113 AUG
1.08325580 SEP

                                Unseasonalized Data for FY 91
                                Regression Output:
                          Constant                       -38.78393464
                          Std Err of Y Est               12.5524281886
                          R Squared                      0.2965917258
                          No. of Observations                        9
                          Degrees of Freedom                         7

                          X Coefficient(s)      0.001031
                          Std Err of Coef.      0.000600
                          t statistic           1.718006
                          Y=  -38.78393464      +     0.0010315662 X
```

```
Cost Center  LP
WASH           Units   Dollars
OCT89           1756      315
NOV89            638      249
DEC89            533      220
JAN90            924      265
FEB90            597      201
MAR90           1361      229
APR90            930      252
MAY90            556      141
JUN90            687       89
JUL90            468      158
AUG90            628      156
SEP90           1212      155
OCT90           1187      365       579.6427  178.2389
NOV90            679      242       912.6058  325.2586
DEC90            813      255      1307.9690  410.2486
JAN91            724      330       671.8939  306.2500
FEB91            662      210       950.8626  301.6332
MAR91            704      201       443.5562  126.6403
APR91            468      219       431.5161  201.9274
MAY91            624      152       962.3741  234.4245
JUN91              0        0         0.0000    0.0000

AVG
      857.5                    Deseasonalized Data for FY 91
                                  Regression Output:
INDEX                      Constant                        58.142793723
2.04781341 OCT             Std Err of Y Est                51.677629598
0.74402332 NOV             R Squared                       0.7293299471
0.62157434 DEC             No. of Observations                        8
1.07755102 JAN             Degrees of Freedom                         6
0.69620991 FEB
1.58717201 MAR             X Coefficient(s)       0.258685
1.08454810 APR             Std Err of Coef.       0.064336
0.64839650 MAY             t statistic            4.020846
0.80116618 JUN
0.54577259 JUL             Y=  58.142793723     +      0.258685361 X
0.73236151 AUG
1.41341107 SEP
                               Unseasonalized Data for FY 91
                                  Regression Output:
                           Constant                        64.570709461
                           Std Err of Y Est                50.709265249
                           R Squared                       0.5488126364
                           No. of Observations                        8
                           Degrees of Freedom                         6

                           X Coefficient(s)       0.248666
                           Std Err of Coef.       0.092046
                           t statistic            2.701526
                           Y=  64.570709461     +     0.2486664945 X

                                    .
```

```
Cost Center   CP
NPFC          Units   Dollars
OCT89         18095      42
NOV89         18130      43
DEC89         27039      48
JAN90         17973      27
FEB90         17838      40
MAR90         17716      43
APR90         17554      42
MAY90         17461      38
JUN90         26236      33
JUL90         15731      39
AUG90         17467      34
SEP90         17312      30
OCT90             0       0     0.0000     0.0000
NOV90         34286      89   36018.2656   93.4966
DEC90         25361      35   17864.0337   24.6536
JAN91         16882      50   17889.8666   52.9850
FEB91         16784      46   17920.6225   49.1151
MAR91         16691      42   17944.0498   45.1531
APR91         16731      36   18153.0492   39.0598
MAY91         16835      52   18363.1756   56.7202
JUN91         25395      37   18435.4768   26.8601
```

```
AVG
      19046                        Deseasonalized Data for FY 91
                                      Regression Output:
INDEX                      Constant                         -9.5888667726
0.95006825 OCT             Std Err of Y Est                 12.5635015825
0.95190591 NOV             R Squared                         0.7086015324
1.41966817 DEC             No. of Observations                          8
0.94366271 JAN             Degrees of Freedom                           6
0.93657460 FEB
0.93016906 MAR             X Coefficient(s)       0.002858
0.92166334 APR             Std Err of Coef.       0.000748
0.91678042 MAY             t statistic            3.819733
1.37750708 JUN
0.82594770 JUL             Y= -9.5888667726     +      0.0028584711 X
0.91709545 AUG
0.90895726 SEP
                                    Unseasonalized Data for FY 91
                                      Regression Output:
                           Constant                         13.5960951501
                           Std Err of Y Est                 15.0034837538
                           R Squared                         0.378700639
                           No. of Observations                          8
                           Degrees of Freedom                           6

                           X Coefficient(s)       0.001646
                           Std Err of Coef.       0.000861
                           t statistic            1.912375
                           Y= 13.5960951501     +      0.0016466797 X
```

```
Cost Center   LP
PHIL             Units   Dollars
OCT89            1501      371
NOV89            1017      316
DEC89             618      280
JAN90            2252      357
FEB90             900      305
MAR90            3010      252
APR90            1212      206
MAY90            1301      335
JUN90             917       79
JUL90            1234      391
AUG90            1311      386
SEP90            1751      437
OCT90            1742      372     1646.4473  351.5949
NOV90            1029      353     1435.4061  492.4182
DEC90            1260      223     2892.4272  511.9137
JAN91            1521      374      958.1670  235.6045
FEB91            1426      286     2247.7985  450.8207
MAR91            1131      240      533.0605  113.1163
APR91            1354      390     1584.8801  456.5017
MAY91            1527      330     1665.1068  359.8463
JUN91            1454      318     2249.4453  491.9695

AVG
1418.66666                        Deseasonalized Data for FY 91
                                     Regression Output:
INDEX                  Constant                         115.812383388
1.05803571 OCT         Std Err of Y Est                  79.828035306
0.71687030 NOV         R Squared                         0.6955554866
0.43562030 DEC         No. of Observations                          9
1.58740601 JAN         Degrees of Freedom                           7
0.63439849 FEB
2.12171052 MAR         X Coefficient(s)        0.159174
0.85432330 APR         Std Err of Coef.        0.039802
0.91705827 MAY         t statistic             3.999086
0.64638157 JUN
0.86983082 JUL         Y= 115.812383388     +     0.1591741214 X
0.92410714 AUG
1.23425751 SEP
                                  Unseasonalized Data for FY 91
                                     Regression Output:
                       Constant                         159.48642793
                       Std Err of Y Est                  57.947693893
                       R Squared                         0.1802487762
                       No. of Observations                          9
                       Degrees of Freedom                           7

                       X Coefficient(s)        0.116572
                       Std Err of Coef.        0.093961
                       t statistic             1.240635
                       Y=  159.48642793     +     0.1165720145 X
```

```
Cost Center  SP
NAP              Units   Dollars
OCT89              882      30
NOV89             1783      30
DEC89             1787      29
JAN90             2206      22
FEB90             1967      23
MAR90             1691      23
APR90             1275      24
MAY90             1834      25
JUN90             1544      35
JUL90             1724      25
AUG90             1615      27
SEP90             2803      26
OCT90             1484      26     2960.0079   51.8600
NOV90             2085      35     2057.2273   34.5338
DEC90             1667      43     1641.1135   42.3323
JAN91             1788      32     1425.9016   25.5195
FEB91             2114      34     1890.7242   30.4090
MAR91             1564      33     1627.1242   34.3319
APR91             1405      32     1938.6245   44.1537
MAY91             1415      26     1357.3276   24.9403
JUN91             1876      39     2137.5343   44.4370

AVG
   1759.25                        Deseasonalized Data for FY 91
                                     Regression Output:
INDEX                      Constant                          7.7423997145
0.50135000 OCT             Std Err of Y Est                  5.9191651949
1.01350007 NOV             R Squared                         0.6443466782
1.01577376 DEC             No. of Observations                          9
1.25394344 JAN             Degrees of Freedom                           7
1.11809009 FEB
0.96120505 MAR             X Coefficient(s)        0.015428
0.72474065 APR             Std Err of Coef.        0.004332
1.04248969 MAY             t statistic             3.561191
0.87764672 JUN
0.97996305 JUL             Y=  7.7423997145    +     0.0154286372 X
0.91800483 AUG
1.59329259 SEP
                                   Unseasonalized Data for FY 91
                                      Regression Output:
                           Constant                          17.167875981
                           Std Err of Y Est                  5.1709336375
                           R Squared                         0.2201254884
                           No. of Observations                          9
                           Degrees of Freedom                           7

                           X Coefficient(s)        0.009448
                           Std Err of Coef.        0.006721
                           t statistic             1.405632
                           Y=  17.167875981    +    0.0094485723 X
```

```
Cost Center   DB
GLAKE         Units    Dollars
OCT89         86367        84
NOV89         80316       102
DEC89         98640        96
JAN90         98641        97
FEB90         96323       103
MAR90         98591        83
APR90        134497        96
MAY90        109464        95
JUN90        114909        82
JUL90        107095        94
AUG90        109816        79
SEP90         71052        73
OCT90        120109       113     139730.0112  131.4597
NOV90        118582       122     148346.9689  152.6229
DEC90        106522       111     108504.6188  113.0660
JAN91        140714       118     143331.5572  120.1950
FEB91        121161       120     126384.7943  125.1737
MAR91        137617       130     140248.0371  132.4854
APR91        148968       121     111286.4700   90.3930
MAY91        143965       125     132144.0414  114.7363
JUN91             0         0          0.0000    0.0000
```

```
AVG
100475.916                        Deseasonalized Data for FY 91
                                      Regression Output:
INDEX                    Constant                      -5.0525174768
0.85957911 OCT           Std Err of Y Est              11.7834311232
0.79935573 NOV           R Squared                      0.6346025386
0.98172779 DEC           No. of Observations                       8
0.98173774 JAN           Degrees of Freedom                        6
0.95866754 FEB
0.98124011 MAR           X Coefficient(s)      0.000971
1.33859938 APR           Std Err of Coef.      0.000301
1.08945510 MAY           t statistic           3.228076
1.14364719 JUN
1.06587731 JUL           Y= -5.0525174768      +    0.0009719762 X
1.09295842 AUG
0.70715453 SEP
                                  Unseasonalized Data for FY 91
                                      Regression Output:
                         Constant                       87.154531412
                         Std Err of Y Est                5.2024588054
                         R Squared                       0.3848732359
                         No. of Observations                       8
                         Degrees of Freedom                        6

                         X Coefficient(s)      0.000253
                         Std Err of Coef.      0.000130
                         t statistic           1.937546
                         Y=  87.154531412      +    0.0002532326 X
```

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```
Cost Center   LP
PEN              Units   Dollars
OCT89              43       17
NOV89               9       18
DEC89              37       16
JAN90              40       17
FEB90              49       17
MAR90              33       25
APR90              35       15
MAY90              30       17
JUN90              36       20
JUL90              35       20
AUG90              21       21
SEP90             107       24
OCT90              29       21        26.6957    19.3314
NOV90              24       22       105.5556    96.7593
DEC90              64       20        68.4685    21.3964
JAN91              52       27        51.4583    26.7188
FEB91              16       21        12.9252    16.9643
MAR91              48       27        57.5758    32.3864
APR91              51       31        57.6786    35.0595
MAY91              59       24        77.8472    31.6667
JUN91               0        0         0.0000     0.0000
```

```
AVG
39.5833333                     Deseasonalized Data for FY 91
                                  Regression Output:
INDEX                       Constant                        -5.2193308383
1.08631578 OCT              Std Err of Y Est                17.242801968
0.22736842 NOV              R Squared                       0.6169101134
0.93473684 DEC              No. of Observations                         8
1.01052631 JAN              Degrees of Freedom                          6
1.23789473 FEB
0.83368421 MAR              X Coefficient(s)        0.7028238
0.88421052 APR              Std Err of Coef.        0.2261050
0.75789473 MAY              t statistic             3.1083951
0.90947368 JUN
0.88421052 JUL              Y= -5.2193308383      +      0.7028238834 X
0.53052631 AUG
2.70315789 SEP
                               Unseasonalized Data for FY 91
                                  Regression Output:
                            Constant                        20.63734541
                            Std Err of Y Est                3.886504579
                            R Squared                       0.1358330674
                            No. of Observations                         8
                            Degrees of Freedom                          6

                            X Coefficient(s)        0.0813447
                            Std Err of Coef.        0.0837625
                            t statistic             0.9711348
                            Y=   20.63734541      +     0.0813447135 X
```

```
Cost Center   SM
JAX           Units    Dollars
OCT89       1385000      51
NOV89       1134481      48
DEC89        728236      25
JAN90       1632374      74
FEB90       1121543      48
MAR90       1165872      56
APR90       1271381      58
MAY90       1471121      60
JUN90       1039728      47
JUL90       1730759      53
AUG90       1208190      62
SEP90       1146599      53
OCT90       1058614      64     957675.2188     57.8976
NOV90       1080377      43    1193186.9450     47.4899
DEC90       1262268      96    2171749.9391    165.1694
JAN91       1534983      91    1178187.1750     69.8477
FEB91       1213922      59    1356142.2391     65.9123
MAR91       1083153      93    1164043.8066     99.9453
APR91       1324729      64    1305514.5506     63.0717
MAY91       1916257      73    1632058.6032     62.1734
JUN91       1078342      54    1299472.7322     65.0735
```

```
AVG
1252940.33                        Deseasonalized Data for FY 91
                                     Regression Output:
INDEX                     Constant                          -29.397484951
1.10539980 OCT            Std Err of Y Est                   24.237579187
0.90545492 NOV            R Squared                          0.5993861188
0.58122161 DEC            No. of Observations                          9
1.30283458 JAN            Degrees of Freedom                           7
0.89512881 FEB
0.93050879 MAR            X Coefficient(s)        0.0000784
1.01471791 APR            Std Err of Coef.        0.0000242
1.17413492 MAY            t statistic             3.2362298
0.82983041 JUN
1.38135787 JUL            Y= -29.397484951      +      0.0000784105 X
0.96428374 AUG
0.91512657 SEP
```

```
                                  Unseasonalized Data for FY 91
                                     Regression Output:
                          Constant                           45.584897354
                          Std Err of Y Est                   19.195350608
                          R Squared                          0.087823265
                          No. of Observations                          9
                          Degrees of Freedom                           7

                          X Coefficient(s)        0.0000196
                          Std Err of Coef.        0.0000239
                          t statistic             0.8209454
                          Y=   45.584897354      +      0.0000196263 X
```

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```
Cost Center  SM
OAK          Units   Dollars
OCT89       164148      47
NOV89       155749       5
DEC89       135784       5
JAN90       112377      48
FEB90       121247       6
MAR90       125284       6
APR90       152823      49
MAY90        94885       8
JUN90       146617      10
JUL90       174822      33
AUG90       267056      24
SEP90       140025      21
OCT90       116432      24    105853.8661   21.8195
NOV90       161177      18    154435.7222   17.2471
DEC90       130562      19    143495.4592   20.8821
JAN91       199619      21    265090.6463   27.8876
FEB91       197663      18    243290.0475   22.1550
MAR91       152639      21    181819.2507   25.0146
APR91       188781      20    184348.4642   19.5304
MAY91       191066      22    300507.8436   34.6015
JUN91       165950      23    168912.9280   23.4106
```

```
AVG
 149234.75                          Deseasonalized Data for FY 91
                                      Regression Output:
INDEX                       Constant                          11.4567289861
1.09993148 OCT              Std Err of Y Est                   3.5291322736
1.04365102 NOV              R Squared                          0.5868415688
0.90986851 DEC              No. of Observations                           9
0.75302166 JAN              Degrees of Freedom                            7
0.81245822 FEB
0.83950956 MAR              X Coefficient(s)      0.000062
1.02404433 APR              Std Err of Coef.      0.000019
0.63581035 MAY              t statistic           3.153197
0.98245884 JUN
1.17145638 JUL              Y= 11.4567289861      +    0.0000626164 X
1.78950278 AUG
0.93828682 SEP
                                    Unseasonalized Data for FY 91
                                       Regression Output:
                            Constant                          24.222414865
                            Std Err of Y Est                   2.1629048402
                            R Squared                          0.0903582935
                            No. of Observations                           9
                            Degrees of Freedom                            7

                            X Coefficient(s)     -0.00002
                            Std Err of Coef.      0.000025
                            t statistic          -0.83386
                            Y=  24.222414865      +   -0.0000212793 X
```

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Cost Center   FR
OAK            Units   Dollars
OCT89         132089    184
NOV89         107531    160
DEC89         149612    143
JAN90         155254    167
FEB90         144699    152
MAR90         170132    176
APR90         146763    164
MAY90         183286    174
JUN90         163052    175
JUL90         144847    167
AUG90         152540    181
SEP90         159470    165
OCT90         136758    211    156102.3442  240.8458
NOV90         122963    143    172410.6551  200.5052
DEC90          94188    131     94918.8533  132.0165
JAN91          98336    163     95497.7362  158.2953
FEB91          84788    165     88347.0795  171.9261
MAR91         103300    210     91545.6369  186.1044
APR91         104705    181    107565.7914  185.9454
MAY91          82850    186     68153.2476  153.0055
JUN91          78090    173     72209.2158  159.9718
```

```
AVG
150772.916                        Deseasonalized Data for FY 91
                                      Regression Output:
INDEX                       Constant                        105.596227739
0.87607909 OCT              Std Err of Y Est                 22.033254907
0.71319838 NOV              R Squared                        0.5780867972
0.99230023 DEC              No. of Observations                          9
1.02972074 JAN              Degrees of Freedom                           7
0.95971480 FEB
1.12839894 MAR              X Coefficient(s)       0.000674
0.97340426 APR              Std Err of Coef.       0.000217
1.21564272 MAY              t statistic            3.096948
1.08144090 JUN
0.96069641 JUL              Y= 105.596227739    +      0.0006741479 X
1.01172016 AUG
1.05768332 SEP
                                  Unseasonalized Data for FY 91
                                      Regression Output:
                            Constant                        138.74856825
                            Std Err of Y Est                 28.069021668
                            R Squared                        0.0604616964
                            No. of Observations                          9
                            Degrees of Freedom                           7

                            X Coefficient(s)       0.000346
                            Std Err of Coef.       0.000516
                            t statistic            0.671169
                            Y=  138.74856825    +      0.000346877 X
```

```
Cost Center  AP
ASO          Units  Dollars
OCT89          207      225
NOV89           70      231
DEC89          111      170
JAN90          352      220
FEB90          326      187
MAR90          177      281
APR90          257      249
MAY90          192      209
JUN90          100      247
JUL90          196      214
AUG90          327      225
SEP90          227       79
OCT90          261      227 267.0942 232.3003
NOV90          279      209 844.3071 632.4738
DEC90          193      203 368.3228 387.4069
JAN91          247      191 148.6444 114.9436
FEB91           96      191 62.38036 124.1109
MAR91          168      198 201.0621 236.9661
APR91          225      211 185.4571 173.9176
MAY91          116      193 127.9826 212.9366
JUN91          283       70 599.4883 148.2833
```

AVG
211.833333   Deseasonalized Data for FY 91
                                     Regression Output:
INDEX   Constant   99.7871416
0.97718332 OCT   Std Err of Y Est   115.546215
0.33044846 NOV   R Squared   0.56977502
0.52399685 DEC   No. of Observations   9
1.66168371 JAN   Degrees of Freedom   7
1.53894571 FEB
0.83556254 MAR   X Coefficient(s) 0.486767
1.21321793 APR   Std Err of Coef. 0.159870
0.90637293 MAY   t   3.044758
0.47206923 JUN
0.92525570 JUL   Y= 99.78714   +   0.48676719 X
1.54366640 AUG
1.07159716 SEP
                                   Unseasonalized Data for FY 91
                                     Regression Output:
                               Constant   221.896987
                               Std Err of Y Est   47
                               R Squared   0
                               No. of Observations   9
                               Degrees of Freedom   7

                               X Coefficient(s) -0.16277
                               Std Err of Coef. 0.243137
                               t   -0.66949
                               Y= 221.8969   +   -0.1627799 X

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Cost Center	SP				
NORVA		Units	Dollars		
OCT89		12316	273		
NOV89		13075	241		
DEC89		11286	240		
JAN90		16857	256		
FEB90		17400	246		
MAR90		18387	264		
APR90		15803	234		
MAY90		18194	278		
JUN90		16507	229		
JUL90		16612	265		
AUG90		20788	251		
SEP90		19565	284		
OCT90		10081	204	13423.1893	271.6328
NOV90		13625	204	17088.9978	255.8646
DEC90		16041	495	23308.4381	719.2617
JAN91		16938	96	16477.9667	93.3927
FEB91		14367	244	13540.6223	229.9653
MAR91		14869	235	13261.5005	209.5940
APR91		15526	241	16111.7169	250.0917
MAY91		20405	248	18392.0521	223.5349
JUN91		17610	246	17494.9612	244.3930

AVG
16399.1666

Deseasonalized Data for FY 91
Regression Output:

INDEX			
0.75101377 OCT	Constant		-395.36112596
0.79729661 NOV	Std Err of Y Est		124.81107682
0.68820570 DEC	R Squared		0.547873548
1.02791808 JAN	No. of Observations		9
1.06102952 FEB	Degrees of Freedom		7
1.12121550 MAR	X Coefficient(s)	0.0406170	
0.96364652 APR	Std Err of Coef.	0.0139459	
1.10944661 MAY	t statistic	2.9124550	
1.00657553 JUN			
1.01297830 JUL	Y= -395.36112596 + 0.0406170579 X		
1.26762538 AUG			
1.19304842 SEP			

Unseasonalized Data for FY 91
Regression Output:

Constant		188.05021443
Std Err of Y Est		111.657162229
R Squared		0.0103380118
No. of Observations		9
Degrees of Freedom		7
X Coefficient(s)	0.0037325	
Std Err of Coef.	0.0138032	
t statistic	0.2704108	
Y= 188.05021443 + 0.0037325441 X		

```
Cost Center  PD
CHASN          Units   Dollars
OCT89          95769    1164
NOV89         125926    1111
DEC89          97877     898
JAN90         137768    1582
FEB90         120999    1024
MAR90         114573    1009
APR90         100646    1217
MAY90         109617    1243
JUN90          90003    1063
JUL90         110944    1120
AUG90         100656    1427
SEP90         105557    1224
OCT90          96216    1552    109704.2470 1769.5705
NOV90          93379    1039     80972.0073  900.9511
DEC90          81196     816     90584.7481  910.3546
JAN91          91174    1243     72264.2917  985.1988
FEB91          92770     947     83719.5472  854.6126
MAR91          88681    1065     84518.0352 1015.0056
APR91         104720    1109    113614.6172 1203.1953
MAY91         112495    1103    112061.4928 1098.7495
JUN91          95959    1383    116420.5973 1677.9008
```

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AVG
109194.583                        Deseasonalized Data for FY 91
                                     Regression Output:
INDEX                      Constant                        -257.22845281
0.87704899 OCT             Std Err of Y Est                 246.60758316
1.15322570 NOV             R Squared                        0.5370825951
0.89635398 DEC             No. of Observations                          9
1.26167430 JAN             Degrees of Freedom                           7
1.10810441 FEB
1.04925534 MAR             X Coefficient(s)        0.0147368
0.92171238 APR             Std Err of Coef.        0.0051711
1.00386847 MAY             t statistic             2.8498224
0.82424418 JUN
1.01602109 JUL             Y= -257.22845281     +     0.0147368798 X
0.92180396 AUG
0.96668714 SEP
                                  Unseasonalized Data for FY 91
                                     Regression Output:
                           Constant                         423.37957055
                           Std Err of Y Est                 227.61545605
                           R Squared                        0.0928516771
                           No. of Observations                          9
                           Degrees of Freedom                           7

                           X Coefficient(s)        0.0075258
                           Std Err of Coef.        0.0088910
                           t statistic             0.8464566
                           Y=  423.37957055     +      0.0075258687 X
```

```
Cost Center  MA
JAX           Units  Dollars
OCT89        148982      19
NOV89         94930      20
DEC89         93239       6
JAN90         77480      25
FEB90         90285      15
MAR90         59836      17
APR90         87484      18
MAY90         71541      20
JUN90        101236      16
JUL90         84158      20
AUG90         79762      29
SEP90         88431      29
OCT90         86553      22      52159.0339   13.2578
NOV90         73634      15      69639.5772   14.1863
DEC90         71171      17      68530.9377   16.3694
JAN91         75904      28      87954.1355   32.4451
FEB91         76215      24      75788.9805   23.8658
MAR91         80717      17     121111.0229   25.5075
APR91         92037      24      94452.8433   24.6300
MAY91         81897      20     102776.5891   25.0990
JUN91         81383      24      72173.8598   21.2842
```

```
AVG
89780.3333                      Deseasonalized Data for FY 91
                                   Regression Output:
INDEX                    Constant                          4.716294057
1.65940573 OCT           Std Err of Y Est                  4.7883576885
1.05735851 NOV           R Squared                         0.4837582097
1.03852365 DEC           No. of Observations                         9
0.86299523 JAN           Degrees of Freedom                          7
1.00562112 FEB
0.66647112 MAR           X Coefficient(s)       0.000207
0.97442275 APR           Std Err of Coef.       0.000080
0.79684489 MAY           t statistic            2.561159
1.12759661 JUN
0.93737678 JUL           Y=   4.716294057     +    0.0002070926 X
0.88841282 AUG
0.98497072 SEP
                                Unseasonalized Data for FY 91
                                   Regression Output:
                         Constant                          3.612914674
                         Std Err of Y Est                  4.2910916463
                         R Squared                         0.1144668293
                         No. of Observations                         9
                         Degrees of Freedom                          7

                         X Coefficient(s)       0.000220
                         Std Err of Coef.       0.000231
                         t statistic            0.951231
                         Y=   3.612914674     +    0.0002202659 X
```

```
Cost Center  CD
GLAKE         Units   Dollars
OCT89         38168      27
NOV89         28404      27
DEC89         36322      41
JAN90         36322      41
FEB90         53209      40
MAR90         45144      38
APR90         40596      43
MAY90         61480      38
JUN90         36157      42
JUL90         48026      37
AUG90         39074      40
SEP90         44603      35
OCT90         40821      37    45231.7421   40.9979
NOV90         28304      44    42143.1885   65.5137
DEC90         46250      38    53851.9039   44.2459
JAN91             0       0        0.0000    0.0000
FEB91             0       8        0.0000    6.3586
MAR91             0       6        0.0000    5.6210
APR91             0      30        0.0000   31.2534
MAY91         38311       9    26354.1315    6.1911
JUN91             0       0        0.0000    0.0000

AVG
42292.0833                    Deseasonalized Data for FY 91
                                 Regression Output:
INDEX                    Constant                         -22.79335312
0.90248568 OCT           Std Err of Y Est                  21.717182648
0.67161505 NOV           R Squared                         0.4790530116
0.85883685 DEC           No. of Observations                          4
0.85883685 JAN           Degrees of Freedom                           2
1.25813144 FEB
1.06743381 MAR           X Coefficient(s)        0.001480
0.95989596 APR           Std Err of Coef.        0.001091
1.45369996 MAY           t statistic             1.356157
0.85493541 JUN
1.13557895 JUL           Y=  -22.79335312     +     0.0014806097 X
0.92390813 AUG
1.05464182 SEP
                              Unseasonalized Data for FY 91
                                 Regression Output:
                         Constant                          45.584352735
                         Std Err of Y Est                  18.878846395
                         R Squared                         0.0288532937
                         No. of Observations                          4
                         Degrees of Freedom                           2

                         X Coefficient(s)       -0.00035
                         Std Err of Coef.        0.001450
                         t statistic            -0.24376
                         Y=  45.584352735     +    -0.0003535612 X
```

```
Cost Center   IC
SPCC            Units   Dollars
OCT89           63897    1163
NOV89           63896    1162
DEC89           63875    1241
JAN90           63863    1226
FEB90           63855    1475
MAR90           63831    1691
APR90           64141    1179
MAY90           64144    1316
JUN90           64345    1241
JUL90           64451    1187
AUG90           64827    1397
SEP90           64177    1346
OCT90           64299    1423   64511.830626  1427.710
NOV90           64395    1412   64609.159533  1416.695
DEC90           63924    1066   64157.679123  1069.896
JAN91           64058    1335   64304.249612  1340.131
FEB91           64235    1394   64490.008574  1399.534
MAR91           64244    1423   64523.295483  1429.186
APR91           64534    1468   64501.300868  1467.256
MAY91           64325    1591   64289.399827  1590.119
JUN91           64276    1119   64039.753609  1114.887

AVG
   64108.5                        Deseasonalized Data for FY 91
                                    Regression Output:
INDEX                         Constant                          -37245.983874
0.99670090 OCT                Std Err of Y Est                   129.08162264
0.99668530 NOV                R Squared                          0.477481971
0.99635773 DEC                No. of Observations                           9
0.99617055 JAN                Degrees of Freedom                            7
0.99604576 FEB
0.99567140 MAR                X Coefficient(s)         0.599677
1.00050695 APR                Std Err of Coef.         0.237105
1.00055374 MAY                t statistic              2.529163
1.00368905 JUN
1.00534250 JUL                Y= -37245.983874     +      0.5996777273 X
1.01120756 AUG
1.00106850 SEP
                              Unseasonalized Data for FY 91
                                 Regression Output:
                              Constant                          -37191.2006
                              Std Err of Y Est                   136.62745992
                              R Squared                          0.4112822378
                              No. of Observations                           9
                              Degrees of Freedom                            7

                              X Coefficient(s)         0.599961
                              Std Err of Coef.         0.271305
                              t statistic              2.211390
                              Y=   -37191.2006     +      0.5999616203 X
```

```
Cost Center  DB
ASO           Units  Dollars
OCT89          3918      17
NOV89          6718      22
DEC89          5764      20
JAN90          6048      24
FEB90          5824      16
MAR90          6306      20
APR90          5926      12
MAY90          8104      16
JUN90          8310      16
JUL90          7440      17
AUG90          7896      15
SEP90          6394      16
OCT90          7690      14  12863.77  23.41909
NOV90          6734      23  6569.609  22.43852
DEC90          4114      10  4677.854  11.37057
JAN91          6208      11  6727.386  11.92030
FEB91          4538       7  5106.808   7.877403
MAR91          6150       9  6391.864   9.353948
APR91          5374      13  5943.502  14.37765
MAY91          4330      17  3501.828  13.74851
JUN91          5528      11  4359.869   8.675571

AVG
        6554                      Deseasonalized Data for FY 91
                                  Regression Output:
INDEX                      Constant                     4.70486202
0.59780286 OCT             Std Err of Y Est             4.39818757
1.02502288 NOV             R Squared                    0.47498173
0.87946292 DEC             No. of Observations                   9
0.92279523 JAN             Degrees of Freedom                    7
0.88861763 FEB
0.96216051 MAR             X Coefficient(s)   0.001439
0.90418065 APR             Std Err of Coef.   0.000572
1.23649679 MAY             t                  2.516519
1.26792798 JUN
1.13518462 JUL             Y= 4.704862      +      0.00143986 X
1.20476045 AUG
0.97558742 SEP
                                  Unseasonalized Data for FY 91
                                  Regression Output:
                           Constant                     4.83965997
                           Std Err of Y Est                      5
                           R Squared                             0
                           No. of Observations                   9
                           Degrees of Freedom                    7

                           X Coefficient(s)   0.001410
                           Std Err of Coef.   0.001434
                           t                  0.983186
                           Y= 4.839659      +      0.00141007 X

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```

```
Cost Center  DB
NPFC            Units   Dollars
OCT89           18448       31
NOV89           21821       48
DEC89           23226       69
JAN90           21335       20
FEB90           17716       41
MAR90           26224       55
APR90           18758       44
MAY90           25048       44
JUN90           24318       35
JUL90           19417       34
AUG90           19701       36
SEP90           18449      -19
OCT90               0        0        0.0000     0.0000
NOV90           40367       71    39227.6064    68.9960
DEC90           17665       23    16127.9513    20.9987
JAN91           17789       59    17680.6762    58.6407
FEB91           19724       18    23608.5495    21.5450
MAR91           21955       34    17753.1118    27.4929
APR91           27729       39    31346.3992    44.0878
MAY91           20049       32    16973.0404    27.0905
JUN91           20726       25    18072.8907    21.7998

AVG
21205.0833                      Deseasonalized Data for FY 91
                                  Regression Output:
INDEX                         Constant                      2.3158475605
0.86998007 OCT                Std Err of Y Est             14.8891258391
1.02904570 NOV                R Squared                     0.4578146502
1.09530340 DEC                No. of Observations                      8
1.00612667 JAN                Degrees of Freedom                       6
0.83546005 FEB
 1.2366846 MAR                X Coefficient(s)       0.001505
0.88459921 APR                Std Err of Coef.       0.000668
1.18122619 MAY                t statistic            2.250850
1.14680049 JUN
0.91567666 JUL                Y=  2.3158475605      +     0.0015051952 X
0.92906968 AUG
0.87002723 SEP
                                Unseasonalized Data for FY 91
                                  Regression Output:
                              Constant                     -0.6373774832
                              Std Err of Y Est             14.6037323264
                              R Squared                     0.4614135899
                              No. of Observations                      8
                              Degrees of Freedom                       6

                              X Coefficient(s)       0.001645
                              Std Err of Coef.       0.000725
                              t statistic            2.267217
                              Y= -0.6373774832      +     0.0016456583 X
```

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Cost Center  MA
OAK             Units   Dollars
OCT89           51060        48
NOV89           48617        46
DEC89           34880        45
JAN90           47039        50
FEB90           38925        45
MAR90           36406        53
APR90           41387        54
MAY90           33945        56
JUN90           33925        48
JUL90           35655        44
AUG90           80039        48
SEP90           25653        40
OCT90           36301        48    30069.0084   39.7596
NOV90           47193        40    41055.4444   34.7979
DEC90           33829        34    41019.8447   41.2272
JAN91           36257        51    32599.8134   45.8557
FEB91           45110        50    49014.6080   54.3279
MAR91           59858        66    69539.3401   76.6747
APR91           39460        64    40325.0080   65.4030
MAY91           30769        52    38337.0681   64.7901
JUN91           33233        44    41431.5346   54.8547
```

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AVG
  42294.25                        Deseasonalized Data for FY 91
                                  Regression Output:
INDEX                       Constant                            18.717191519
1.20725630 OCT              Std Err of Y Est                    11.1443200092
1.14949431 NOV              R Squared                            0.4408285316
0.82469839 DEC              No. of Observations                            9
1.11218428 JAN              Degrees of Freedom                             7
0.92033787 FEB
0.86077894 MAR              X Coefficient(s)          0.000806
0.97854909 APR              Std Err of Coef.          0.000343
0.80259136 MAY              t statistic               2.349153
0.80211849 JUN
0.84302239 JUL              Y=  18.717191519      +     0.0008065801 X
1.89243218 AUG
0.60653634 SEP
                                  Unseasonalized Data for FY 91
                                  Regression Output:
                            Constant                            28.057990233
                            Std Err of Y Est                     9.6797110884
                            R Squared                            0.2309928575
                            No. of Observations                            9
                            Degrees of Freedom                             7

                            X Coefficient(s)          0.000542
                            Std Err of Coef.          0.000374
                            t statistic               1.450050
                            Y=  28.057990233      +     0.0005427422 X
```

```
Cost Center   AH
SAN             Units   Dollars
OCT89           25610     127
NOV89           24108     146
DEC89           23991     149
JAN90           25765     121
FEB90           23863     158
MAR90           29537     181
APR90           25342     124
MAY90           26258     170
JUN90           26453     170
JUL90           24843     110
AUG90           26708     143
SEP90           21754     149
OCT90           25798     162     25538.7776  160.3722
NOV90           21642     194     22759.3501  204.0160
DEC90           18430     124     19476.0388  131.0379
JAN91           21780     129     21431.4411  126.9355
FEB91           20035     105     21285.7007  111.5547
MAR91           20716     137     17781.2859  117.5920
APR91           22861     159     22870.6224  159.0669
MAY91           20832     126     20113.7464  121.6557
JUN91           20663     108     19803.5063  103.5077
```

```
AVG
25352.6666                    Deseasonalized Data for FY 91
                                 Regression Output:
INDEX                    Constant                        -54.382753304
1.01015014 OCT           Std Err of Y Est                 25.707795202
0.95090588 NOV           R Squared                        0.4247174129
0.94629098 DEC           No. of Observations                         9
1.01626390 JAN           Degrees of Freedom                          7
0.94124220 FEB
1.16504509 MAR           X Coefficient(s)       0.009029
0.99957926 APR           Std Err of Coef.       0.003971
1.03570959 MAY           t statistic            2.273308
1.04340108 JUN
0.97989692 JUL           Y= -54.382753304       +    0.0090295153 X
1.05345920 AUG
0.85805569 SEP

                               Unseasonalized Data for FY 91
                                 Regression Output:
                         Constant                        -28.671569946
                         Std Err of Y Est                 25.40398472
                         R Squared                        0.3117241045
                         No. of Observations                         9
                         Degrees of Freedom                          7

                         X Coefficient(s)       0.007792
                         Std Err of Coef.       0.004376
                         t statistic            1.780544
                         Y= -28.671569946       +    0.0077924233 X
```

```
Cost Center  AP
SPCC          Units  Dollars
OCT89         16694      227
NOV89         16694      228
DEC89         18281      200
JAN90         17143      195
FEB90         18992      244
MAR90         18785      231
APR90         14401      207
MAY90         14654      197
JUN90         21250      196
JUL90         14248      164
AUG90         20254      177
SEP90         13821      129
OCT90         14352      260  14702.2602133  266.3452
NOV90         14941      223  15305.634744   228.4423
DEC90         18697      167  17490.574226   156.2243
JAN91         15615      218  15577.1230969  217.4712
FEB91         17874      212  16094.7094303  190.8961
MAR91         17698      230  16111.8377518  209.3865
APR91         16260      331  19309.008749   393.0677
MAY91         16972      254  19806.554092   296.4214
JUN91         16324      188  13137.1070902  151.2972

AVG
17101.4166                        Deseasonalized Data for FY 91
                                     Regression Output:
INDEX                     Constant                         -141.85079348
0.97617643 OCT            Std Err of Y Est                 61.523259787
0.97617643 NOV            R Squared                        0.4227557064
1.06897576 DEC            No. of Observations                          9
1.00243157 JAN            Degrees of Freedom                           7
1.11055127 FEB
1.09844700 MAR            X Coefficient(s)       0.022951
0.84209397 APR            Std Err of Coef.       0.010136
0.85688807 MAY            t statistic            2.264195
1.24258711 JUN
0.83314735 JUL            Y= -141.85079348       +       0.0229519354 X
1.18434632 AUG
0.80817865 SEP
                                  Unseasonalized Data for FY 91
                                     Regression Output:
                          Constant                         446.51423643
                          Std Err of Y Est                 46.522569452
                          R Squared                        0.1539949588
                          No. of Observations                          9
                          Degrees of Freedom                           7

                          X Coefficient(s)       -0.01301
                          Std Err of Coef.        0.011529
                          t statistic            -1.12879
                          Y=  446.51423643       +    -0.0130141134 X
```

Cost Center	SM			
NORVA	Units	Dollars		
OCT89	1300471	34		
NOV89	1319873	35		
DEC89	933831	47		
JAN90	2077178	88		
FEB90	1429539	66		
MAR90	1480603	65		
APR90	1662827	39		
MAY90	1638774	52		
JUN90	1456632	45		
JUL90	1945512	56		
AUG90	2745066	100		
SEP90	2006564	153		
OCT90	1417439	23	1816287.0360	29.4719
NOV90	1417438	23	1789586.5372	29.0387
DEC90	1530452	106	2731066.0499	189.1552
JAN91	2056956	65	1650182.8333	52.1459
FEB91	1411786	55	1645711.2578	64.1132
MAR91	1067810	83	1201810.8925	93.4158
APR91	1811754	69	1815653.3627	69.1485
MAY91	1969867	69	2003081.4863	70.1634
JUN91	0	0	0.0000	0.0000

```
AVG
1666405.83                          Deseasonalized Data for FY 91
                                       Regression Output:
INDEX                       Constant                           -64.594759703
0.78040473 OCT              Std Err of Y Est                    42.268350526
0.79204775 NOV              R Squared                           0.4127127468
0.56038630 DEC              No. of Observations                            8
1.24650187 JAN              Degrees of Freedom                             6
0.85785765 FEB
0.88850085 MAR              X Coefficient(s)        0.0000759
0.99785236 APR              Std Err of Coef.        0.0000370
0.98341830 MAY              t statistic             2.0534034
0.87411599 JUN
1.16748991 JUL              Y= -64.594759703     +      0.0000759832 X
1.64729740 AUG
1.20412684 SEP


                                    Unseasonalized Data for FY 91
                                       Regression Output:
                            Constant                            47.947098444
                            Std Err of Y Est                    30.320242319
                            R Squared                           0.0104007417
                            No. of Observations                            8
                            Degrees of Freedom                             6

                            X Coefficient(s)        0.0000086
                            Std Err of Coef.        0.0000343
                            t statistic             0.2511181
                            Y=   47.947098444     +      0.0000086272 X
```

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```
Cost Center  MA
CHASN          Units  Dollars
OCT89         104703      17
NOV89         161031      19
DEC89         140892      18
JAN90         156666      24
FEB90         160490      25
MAR90         170137      27
APR90         137904      30
MAY90         135626      26
JUN90         163249      23
JUL90         144968      24
AUG90         127536      26
SEP90         127613      26
OCT90         150571      30    207420.4698   41.3268
NOV90         148897      27    133366.2261   24.1838
DEC90          93443      19     95659.8825   19.4508
JAN91          93075      27     85689.5168   24.8576
FEB91         124149      24    111574.4239   21.5691
MAR91         116107      36     98430.3518   30.5192
APR91         109441      36    114464.9686   37.6526
MAY91         131852      35    140221.0364   37.2216
JUN91         127263      39    112440.0503   34.4575
```

```
AVG
144234.583                      Deseasonalized Data for FY 91
                                  Regression Output:
INDEX                    Constant                        13.1384558613
0.72592160 OCT           Std Err of Y Est                 6.5097124541
1.11645207 NOV           R Squared                        0.4086430242
0.97682536 DEC           No. of Observations                          9
1.08618887 JAN           Degrees of Freedom                           7
1.11270124 FEB
1.17958533 MAR           X Coefficient(s)      0.000139
0.95610911 APR           Std Err of Coef.      0.000063
0.94031540 MAY           t statistic           2.199359
1.13182980 JUN
1.00508488 JUL           Y= 13.1384558613      +      0.000139177 X
0.88422621 AUG
0.88476006 SEP
                                Unseasonalized Data for FY 91
                                  Regression Output:
                         Constant                        20.141518905
                         Std Err of Y Est                 6.8383632686
                         R Squared                        0.0700497575
                         No. of Observations                          9
                         Degrees of Freedom                           7

                         X Coefficient(s)      0.000083
                         Std Err of Coef.      0.000115
                         t statistic           0.726143
                         Y=  20.141518905      +      0.0000837838 X
```

```
Cost Center  IF
SPCC             Units   Dollars
OCT89          128031      897
NOV89          106054      898
DEC89           66060      801
JAN90           90313      787
FEB90           50836      987
MAR90          157961      986
APR90           56786      848
MAY90           61459      843
JUN90           95795      862
JUL90           68770      778
AUG90           97480      822
SEP90           79331      799
OCT90          100306     1056   69131.444765  727.8009
NOV90           86159      944   71686.512912  785.4323
DEC90           67824      688   90595.930245  918.9962
JAN91          120135      947  117377.037138  925.2595
FEB91          111922      909  194270.98853  1577.816
MAR91           66933      983   37389.897563  549.1203
APR91           55815      968   86730.831455  1504.173
MAY91           55583     1090   79803.208518  1564.965
JUN91           69867      743   64356.603069  684.3997
```

```
AVG
88239.6666                    Deseasonalized Data for FY 91
                                 Regression Output:
INDEX                     Constant                        505.14516758
1.45094609 OCT            Std Err of Y Est                338.77048776
1.20188577 NOV            R Squared                       0.3987435457
0.74864290 DEC            No. of Observations                        9
1.02349661 JAN            Degrees of Freedom                         7
0.57611278 FEB
1.79013595 MAR            X Coefficient(s)       0.005782
0.64354277 APR            Std Err of Coef.       0.002683
0.69650081 MAY            t statistic            2.154596
1.08562286 JUN
0.77935471 JUL            Y=  505.14516758     +     0.0057825867 X
1.10471858 AUG
0.89904011 SEP
                              Unseasonalized Data for FY 91
                                 Regression Output:
                          Constant                        889.46394636
                          Std Err of Y Est                140.96201896
                          R Squared                       0.0064286851
                          No. of Observations                        9
                          Degrees of Freedom                         7

                          X Coefficient(s)       0.000439
                          Std Err of Coef.       0.002065
                          t statistic            0.212819
                          Y=  889.46394636     +     0.0004394896 X
```

                                     .

```
Cost Center   PP
PUGET        Units  Dollars
OCT89         1364     26
NOV89         1348     28
DEC89         1158     21
JAN90         1673     32
FEB90         1273     27
MAR90         1563     30
APR90         1536     29
MAY90         1844     30
JUN90         1765     27
JUL90         1771     29
AUG90         1709     32
SEP90         1525     26
OCT90         1534     32    1736.5277   36.2248
NOV90         1374     25    1573.8654   28.6366
DEC90         1151     27    1534.7495   36.0019
JAN91         1677     32    1547.7751   29.5342
FEB91         1404     28    1702.9796   33.9626
MAR91         1276     28    1260.5568   27.6611
APR91         1507     26    1514.9307   26.1368
MAY91         1781     30    1491.3299   25.1207
JUN91         1659     24    1451.3508   20.9960
```

```
AVG
1544.08333                     Deseasonalized Data for FY 91
                                 Regression Output:
INDEX                      Constant                    -5.7086389115
0.88337201 OCT             Std Err of Y Est             4.3619087792
0.87300987 NOV             R Squared                    0.3781729405
0.74995952 DEC             No. of Observations                      9
1.08349074 JAN             Degrees of Freedom                       7
0.82443736 FEB
1.01225106 MAR             X Coefficient(s)     0.022850
0.99476496 APR             Std Err of Coef.     0.011074
1.19423606 MAY             t statistic          2.063286
1.14307302 JUN
1.14695882 JUL             Y= -5.7086389115      +    0.0228500763 X
1.10680554 AUG
0.98764099 SEP
                                 Unseasonalized Data for FY 91
                                 Regression Output:
                           Constant                     21.362887647
                           Std Err of Y Est              2.9123096995
                           R Squared                     0.1004419015
                           No. of Observations                      9
                           Degrees of Freedom                       7

                           X Coefficient(s)     0.004470
                           Std Err of Coef.     0.005056
                           t statistic          0.884080
                           Y=  21.362887647      +    0.0044701049 X
```

```
Cost Center   PD
PEN              Units    Dollars
OCT89            64406       551
NOV89            66093       669
DEC89            56272       666
JAN90            63299       714
FEB90            54832       527
MAR90            65410       571
APR90            61640       539
MAY90            64437       616
JUN90            55907       535
JUL90            57401       605
AUG90            68664       664
SEP90            60769       638
OCT90            59248       639     56661.3543    611.1026
NOV90            55758       554     51962.6518    516.2902
DEC90            53179       555     58208.6329    607.4915
JAN91            58436       594     56862.1420    578.0018
FEB91            57752       570     64874.2762    640.2954
MAR91            57502       620     54147.4969    583.8310
APR91            62447       598     62400.5666    597.5553
MAY91            55126       646     52693.9496    617.4998
JUN91                0         0         0.0000      0.0000
```

```
AVG
61594.1666                        Deseasonalized Data for FY 91
                                     Regression Output:
INDEX                    Constant                          310.38388968
1.04565096 OCT           Std Err of Y Est                  31.711207113
1.07303992 NOV           R Squared                         0.3702415391
0.91359300 DEC           No. of Observations                          8
1.02767848 JAN           Degrees of Freedom                           6
0.89021417 FEB
1.06195121 MAR           X Coefficient(s)        0.0049561
1.00074411 APR           Std Err of Coef.        0.0026388
1.04615426 MAY           t statistic             1.8781539
0.90766712 JUN
0.93192266 JUL           Y=   310.38388968      +      0.0049561851 X
1.11478089 AUG
0.98660316 SEP
                                  Unseasonalized Data for FY 91
                                     Regression Output:
                         Constant                          381.92559653
                         Std Err of Y Est                  37.112082728
                         R Squared                         0.086464724
                         No. of Observations                          8
                         Degrees of Freedom                           6

                         X Coefficient(s)        0.0037449
                         Std Err of Coef.        0.0049694
                         t statistic             0.7535853
                         Y=   381.92559653      +      0.0037449183 X
```

```
Cost Center  PP
JAX            Units   Dollars
OCT89           2556       81
NOV89           2227       52
DEC89           2033       62
JAN90           2342       69
FEB90           2185       61
MAR90           2213       69
APR90           2295       97
MAY90           3007       76
JUN90           2921       57
JUL90           2731       75
AUG90           4280       68
SEP90           2531       25
OCT90           2432      123    2483.4596   125.6026
NOV90           2350       58    2754.2415    67.9770
DEC90           2288       33    2937.4671    42.3673
JAN91           2455       67    2736.0182    74.6693
FEB91           2269       84    2710.4252   100.3419
MAR91           2239       52    2640.7486    61.3305
APR91           2974       53    3382.3041    60.2764
MAY91           3511       66    3047.5566    57.2882
JUN91           2950       81    2635.9965    72.3782

AVG
2610.08333                      Deseasonalized Data for FY 91
                                   Regression Output:
INDEX                   Constant                        230.65418108
0.97927907 OCT          Std Err of Y Est                21.393284476
0.85322946 NOV          R Squared                       0.3622258902
0.77890233 DEC          No. of Observations                        9
0.89728935 JAN          Degrees of Freedom                         7
0.83713802 FEB
0.84786564 MAR          X Coefficient(s)       -0.055813
0.87928227 APR          Std Err of Coef.        0.0279919
1.15207049 MAY          t statistic            -1.993908
1.11912135 JUN
1.04632674 JUL          Y=  230.65418108    +      -0.0558134899 X
1.63979438 AUG
0.96970083 SEP
                                Unseasonalized Data for FY 91
                                   Regression Output:
                        Constant                        65.365034416
                        Std Err of Y Est                27.401552419
                        R Squared                       0.0004386839
                        No. of Observations                        9
                        Degrees of Freedom                         7

                        X Coefficient(s)        0.0012235
                        Std Err of Coef.        0.0220753
                        t statistic            0.0554268
                        Y=  65.365034416    +       0.0012235678 X

                          .
```

```
Cost Center   FO
NORVA           Units   Dollars
OCT89            7521     207
NOV89            8837     227
DEC89            6008     182
JAN90            9545     208
FEB90            8033     193
MAR90            6941     217
APR90            6873     194
MAY90            5015     208
JUN90            8624     190
JUL90            7019     183
AUG90            9989     206
SEP90            6306     231
OCT90            4941     184      4966.1287  184.9358
NOV90            4941     185      4226.5762  158.2507
DEC90            6663     466      8383.3693  586.3200
JAN91            4981     105      3944.7485   83.1557
FEB91            6118     179      5757.1880  168.4434
MAR91            4939     197      5378.9275  214.5472
APR91            6869     181      7554.8506  199.0723
MAY91            6794     161     10240.7865  242.6798
JUN91               0       0         0.0000    0.0000
```

```
AVG
   7559.25                      Deseasonalized Data for FY 91
                                   Regression Output:
INDEX                        Constant                       -20.260681176
0.99493997 OCT               Std Err of Y Est                133.61298165
1.16903131 NOV               R Squared                       0.3340732764
0.79478784 DEC               No. of Observations                        8
1.26269140 JAN               Degrees of Freedom                         6
1.06267156 FEB
0.91821278 MAR               X Coefficient(s)         0.039631
0.90921718 APR               Std Err of Coef.         0.022842
0.66342560 MAY               t statistic              1.734935
1.14085392 JUN
0.92853126 JUL               Y= -20.260681176     +      0.0396310864 X
1.32142739 AUG
0.83420974 SEP
                                 Unseasonalized Data for FY 91
                                   Regression Output:
                             Constant                         -60.9370312
                             Std Err of Y Est                107.670420879
                             R Squared                       0.1535286048
                             No. of Observations                        8
                             Degrees of Freedom                         6

                             X Coefficient(s)         0.046393
                             Std Err of Coef.         0.044472
                             t statistic              1.043191
                             Y=    -60.9370312     +      0.0463931205 X
```

```
Cost Center  DB
OAK           Units   Dollars
OCT89        146653     183
NOV89        145252     188
DEC89        158152     193
JAN90        129287     204
FEB90        143394     189
MAR90        181480     214
APR90        139548     192
MAY90        161718     202
JUN90        153397     200
JUL90        155445     171
AUG90        126818     176
SEP90        130088     200
OCT90        142383     177    143305.0158  178.1462
NOV90        114301     192    116150.7752  195.1072
DEC90         99013     149     92408.4604  139.0611
JAN91        102133     197    116601.8482  224.9083
FEB91        117151     175    120589.4250  180.1363
MAR91        116712     127     94925.0740  103.2926
APR91        113912     229    120486.9648  242.2178
MAY91        120715     183    110178.5572  167.0271
JUN91        121465     179    116876.8484  172.2386

AVG
147602.666                      Deseasonalized Data for FY 91
                                 Regression Output:
INDEX                    Constant                        -5.1443071082
0.99356606 OCT           Std Err of Y Est                36.375895665
0.98407436 NOV           R Squared                       0.3323207878
1.07147115 DEC           No. of Observations                         9
0.87591235 JAN           Degrees of Freedom                          7
0.97148651 FEB
1.22951708 MAR           X Coefficient(s)        0.001598
0.94543007 APR           Std Err of Coef.        0.000856
1.09563061 MAY           t statistic             1.866568
1.03925629 JUN
1.05313137 JUL           Y= -5.1443071082      +      0.0015980584 X
0.85918501 AUG
0.88133909 SEP
                                Unseasonalized Data for FY 91
                                 Regression Output:
                         Constant                        173.08857805
                         Std Err of Y Est                30.773739721
                         R Squared                       0.0004280165
                         No. of Observations                         9
                         Degrees of Freedom                          7

                         X Coefficient(s)        0.000047
                         Std Err of Coef.        0.000875
                         t statistic             0.054748
                         Y=  173.08857805      +      0.0000479133 X
```

```
Cost Center   PD
PUGET           Units   Dollars
OCT89           68895       638
NOV89           42467       688
DEC89           39199       549
JAN90           52161       749
FEB90           47593       537
MAR90           48815       664
APR90           57120       674
MAY90           52303       654
JUN90           47507       674
JUL90           44814       530
AUG90           53413       647
SEP90           44389       611
OCT90           57154       776    41387.5319  561.9331
NOV90           49308       634    57926.3825  744.8148
DEC90           42523       520    54120.2147  661.8186
JAN91           57992       711    55466.7577  680.0397
FEB91           45572       596    47771.1405  624.7608
MAR91           50923       720    52044.0745  735.8509
APR91           51802       747    45244.8269  652.4436
MAY91           44378       782    42330.3372  745.9174
JUN91           39217       553    41183.8899  580.7352

AVG
49889.6666                        Deseasonalized Data for FY 91
                                    Regression Output:
INDEX                      Constant                          373.41454572
1.38094729 OCT             Std Err of Y Est                   60.47132749
0.85121835 NOV             R Squared                         0.3205384241
0.78571380 DEC             No. of Observations                          9
1.04552712 JAN             Degrees of Freedom                           7
0.95396508 FEB
0.97845913 MAR             X Coefficient(s)       0.006006
1.14492647 APR             Std Err of Coef.       0.003305
1.04837341 MAY             t statistic            1.817216
0.95224127 JUN
0.89826216 JUL             Y=   373.41454572     +      0.0060062456 X
1.07062250 AUG
0.88974336 SEP
                                  Unseasonalized Data for FY 91
                                    Regression Output:
                           Constant                          169.21623968
                           Std Err of Y Est                   77.439025378
                           R Squared                         0.4537151745
                           No. of Observations                          9
                           Degrees of Freedom                           7

                           X Coefficient(s)       0.010290
                           Std Err of Coef.       0.004267
                           t statistic            2.411188
                           Y=   169.21623968     +      0.0102902092 X
```

```
Cost Center   DB
NORVA         Units   Dollars
OCT89         10036      11
NOV89         17882      18
DEC89         11426       9
JAN90         11018      10
FEB90         10454       9
MAR90         14532      11
APR90          9603      18
MAY90         14543       7
JUN90         11372      11
JUL90          9073      24
AUG90         11144      10
SEP90         15658       6
OCT90         13173       9     16050.7107   10.9661
NOV90         13173       8      9008.2168    5.4707
DEC90         12436      20     13309.3462   21.4045
JAN91          9174       4     10181.8383    4.4394
FEB91          8850       9     10352.1607   10.5276
MAR91         13456      11     11322.9820    9.2563
APR91          8526      10     10856.9697   12.7340
MAY91         13578      11     11417.0007    9.2493
JUN91             0       0         0.0000    0.0000

AVG
12228.4166                    Deseasonalized Data for FY 91
                                Regression Output:
INDEX                      Constant                      -3.6518181841
0.82071132 OCT             Std Err of Y Est               4.8092667069
1.46233159 NOV             R Squared                      0.2667245754
0.93438098 DEC             No. of Observations                        8
0.90101607 JAN             Degrees of Freedom                         6
0.85489399 FEB
1.18837952 MAR             X Coefficient(s)      0.001224
0.78530199 APR             Std Err of Coef.      0.000828
1.18927906 MAY             t statistic           1.477316
0.92996504 JUN
0.74196032 JUL             Y= -3.6518181841       +    0.0012244699 X
0.91131994 AUG
1.28046013 SEP
                                Unseasonalized Data for FY 91
                                Regression Output:
                           Constant                       2.2405656337
                           Std Err of Y Est               4.5868259847
                           R Squared                      0.1203217026
                           No. of Observations                        8
                           Degrees of Freedom                         6

                           X Coefficient(s)      0.000693
                           Std Err of Coef.      0.000765
                           t statistic           0.905911
                           Y=  2.2405656337       +    0.0006937128 X
```

```
Cost Center   PP
PEN             Units   Dollars
OCT89           2248      45
NOV89           2076      43
DEC89           1676      42
JAN90           2422      53
FEB90           2255      48
MAR90           2448      52
APR90           2304      52
MAY90           2705      52
JUN90           2721       0
JUL90           2498      44
AUG90           2534      40
SEP90           2305      39
OCT90           2319      46       2423.5338     48.0735
NOV90           2244      43       2539.4528     48.6615
DEC90           1943      48       2723.6006     67.2840
JAN91           2137      48       2072.8841     46.5599
FEB91           1677      48       1747.1539     50.0080
MAR91           2089      43       2004.8028     41.2669
APR91           2413      44       2460.4780     44.8657
MAY91           2774      55       2409.2609     47.7683
JUN91              0      45          0.0000     38.8534
```

```
AVG
2349.33333                       Deseasonalized Data for FY 91
                                   Regression Output:
INDEX                     Constant                        21.023556767
0.95686719 OCT            Std Err of Y Est                7.1719779611
0.88365493 NOV            R Squared                       0.2649800043
0.71339387 DEC            No. of Observations                        8
1.03093076 JAN            Degrees of Freedom                         6
0.95984676 FEB
1.04199772 MAR            X Coefficient(s)        0.0123114
0.98070374 APR            Std Err of Coef.        0.0083710
1.15139046 MAY            t statistic             1.4707288
1.15820090 JUN
1.06328036 JUL            Y=   21.023556767       +      0.0123114837 X
1.07860385 AUG
0.98112939 SEP
                                 Unseasonalized Data for FY 91
                                   Regression Output:
                          Constant                        37.278061095
                          Std Err of Y Est                3.9719305452
                          R Squared                       0.1305865117
                          No. of Observations                        8
                          Degrees of Freedom                         6

                          X Coefficient(s)        0.0043632
                          Std Err of Coef.        0.0045961
                          t statistic             0.9493177
                          Y=   37.278061095       +      0.0043632366 X
```

```
Cost Center  AH
NORVA           Units  Dollars
OCT89           35052     170
NOV89           34391     443
DEC89           29354     -71
JAN90           34365     205
FEB90           34286     186
MAR90           36243     190
APR90           37736     222
MAY90           34366     215
JUN90           33133     118
JUL90           31888     170
AUG90           33941     313
SEP90           28329     170
OCT90           34928     130       33471.5041 124.5790
NOV90           34927     130       34113.8546 126.9734
DEC90           31842     505       36437.3984 577.8810
JAN91           35321     313       34524.7829 305.9443
FEB91           34554     201       33852.8956 196.9217
MAR91           42986     406       39839.8054 376.2844
APR91           32943     259       29323.8910 230.5463
MAY91           30175     234       29493.9274 228.7184
JUN91               0       0           0.0000   0.0000
```

```
AVG
33590.3333                      Deseasonalized Data for FY 91
                                   Regression Output:
INDEX                      Constant                        -479.9478563
1.04351450 OCT             Std Err of Y Est                 139.61731305
1.02383622 NOV             R Squared                         0.2577699018
0.87388236 DEC             No. of Observations                          8
1.02306219 JAN             Degrees of Freedom                           6
1.02071032 FEB
1.07897113 MAR             X Coefficient(s)        0.022162
1.12341844 APR             Std Err of Coef.        0.015353
1.02309196 MAY             t statistic             1.443518
0.98638497 JUN
0.94932073 JUL             Y=  -479.9478563       +     0.0221628953 X
1.01043951 AUG
0.84336763 SEP
                                Unseasonalized Data for FY 91
                                   Regression Output:
                           Constant                         62.269981782
                           Std Err of Y Est                 139.77052927
                           R Squared                         0.0305414874
                           No. of Observations                          8
                           Degrees of Freedom                           6

                           X Coefficient(s)        0.006049
                           Std Err of Coef.        0.013914
                           t statistic             0.434766
                           Y=  62.269981782       +     0.0060496411 X
```

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```
Cost Center   PP
CHASN          Units   Dollars
OCT89          5740       48
NOV89          2444       43
DEC89          2018       35
JAN90          2298       45
FEB90          2150       43
MAR90          2455       46
APR90          2047       49
MAY90          2636       45
JUN90          2487       51
JUL90          2972       55
AUG90          2719       39
SEP90          2324       36
OCT90          2146       42      1006.0154    19.6890
NOV90          2019       43      2222.9102    47.3428
DEC90          1782       42      2376.1472    56.0035
JAN91          2010       41      2353.6010    48.0088
FEB91          1734       51      2170.1884    63.8291
MAR91          2514       33      2755.5010    36.1701
APR91          2575       42      3384.9027    55.2101
MAY91          3071       45      3134.8821    45.9361
JUN91          2574       38      2784.9638    41.1145

AVG
2690.83333                    Deseasonalized Data for FY 91
                                Regression Output:
INDEX                   Constant                          22.611378793
2.13316816 OCT          Std Err of Y Est                  11.8546647962
0.90826881 NOV          R Squared                          0.2554947831
0.74995354 DEC          No. of Observations                          9
0.85401052 JAN          Degrees of Freedom                           7
0.79900898 FEB
0.91235676 MAR          X Coefficient(s)         0.0094551
0.76073087 APR          Std Err of Coef.         0.0061004
0.97962217 MAY          t statistic              1.5499088
0.92424899 JUN
1.10449055 JUL          Y=  22.611378793    +      0.0094551512 X
1.01046763 AUG
0.86367296 SEP
                              Unseasonalized Data for FY 91
                                Regression Output:
                        Constant                          50.373209323
                        Std Err of Y Est                   4.886041077
                        R Squared                          0.1152799785
                        No. of Observations                          9
                        Degrees of Freedom                           7

                        X Coefficient(s)        -0.003738
                        Std Err of Coef.         0.0039144
                        t statistic             -0.955043
                        Y=  50.373209323    +     -0.003738501 X
```

```
Cost Center   FO
JAX          Units   Dollars
OCT89         4525      89
NOV89         3889      81
DEC89         3924      99
JAN90         4243      85
FEB90         3768      62
MAR90         3773      65
APR90         3672      59
MAY90         4073      62
JUN90         3933      60
JUL90         3033      55
AUG90         3820     128
SEP90         3307     146
OCT90         2687     159    2274.3006  134.5790
NOV90         3015      37    2969.2594   36.4387
DEC90         2667      58    2603.1116   56.6106
JAN91         2978      70    2688.1310   63.1864
FEB91         2211      69    2247.3806   70.1354
MAR91         2636      63    2675.8230   63.9518
APR91         2564      87    2674.3246   90.7435
MAY91         3130      92    2943.2605   86.5112
JUN91         2905      80    2828.9219   77.9049

AVG
     3830                     Deseasonalized Data for FY 91
                                Regression Output:
INDEX                      Constant                        218.29558953
1.18146214 OCT             Std Err of Y Est                25.416282981
1.01540469 NOV             R Squared                       0.2520880318
1.02454308 DEC             No. of Observations                        9
1.10783289 JAN             Degrees of Freedom                         7
0.98381201 FEB
0.98511749 MAR             X Coefficient(s)        -0.05373
0.95874673 APR             Std Err of Coef.         0.034985
1.06344647 MAY             t statistic             -1.53603
1.02689295 JUN
0.79190600 JUL             Y=  218.29558953     +    -0.0537387619 X
0.99738903 AUG
0.86344647 SEP
                              Unseasonalized Data for FY 91
                                Regression Output:
                           Constant                        103.903609915
                           Std Err of Y Est                36.299972838
                           R Squared                       0.0054350677
                           No. of Observations                        9
                           Degrees of Freedom                         7

                           X Coefficient(s)        -0.00887
                           Std Err of Coef.         0.045396
                           t statistic             -0.19558
                           Y= 103.903609915     +    -0.0088788162 X
```

```
Cost Center  SP
JAX            Units    Dollars
OCT89          5480       105
NOV89          4458       108
DEC89          5896        46
JAN90          4621       166
FEB90          4411        80
MAR90          6920       103
APR90          4789       118
MAY90          4908       118
JUN90          5920       106
JUL90          7000       122
AUG90          6798       153
SEP90          8616       175
OCT90          4216       118    4476.1021   125.2799
NOV90          4863        80    6346.6441   104.4071
DEC90          5983        87    5903.9336    85.8503
JAN91          4767       109    6001.9051   137.2368
FEB91          5641       101    7440.4462   133.2184
MAR91          5452       101    4583.8425    84.9171
APR91          5817       108    7066.9849   131.2076
MAY91          5956       114    7060.4125   135.1389
JUN91          5930        88    5827.9112    86.4850

AVG
5818.08333                    Deseasonalized Data for FY 91
                                Regression Output:
INDEX                         Constant                       46.651809292
0.94189094 OCT                Std Err of Y Est               21.373674184
0.76623172 NOV                R Squared                      0.2504308756
1.01339215 DEC                No. of Observations                       9
0.79424781 JAN                Degrees of Freedom                        7
0.75815345 FEB
1.18939513 MAR                X Coefficient(s)        0.0110381
0.82312330 APR                Std Err of Coef.        0.0072178
0.84357677 MAY                t statistic             1.5292803
1.01751722 JUN
1.20314536 JUL                Y=  46.651809292     +        0.0110381053 X
1.16842602 AUG
1.48090006 SEP
                              Unseasonalized Data for FY 91
                                Regression Output:
                              Constant                       131.88676092
                              Std Err of Y Est               13.4551970137
                              R Squared                      0.0789997916
                              No. of Observations                       9
                              Degrees of Freedom                        7

                              X Coefficient(s)       -0.005778
                              Std Err of Coef.        0.0074573
                              t statistic            -0.774875
                              Y=  131.88676092     +       -0.0057785264 X

                                    ·
```

```
Cost Center   PD
NORVA           Units   Dollars
OCT89          264324    3412
NOV89          229793    2979
DEC89          221004    3105
JAN90          263366    4313
FEB90          254057    3013
MAR90          277937    3396
APR90          263818    3056
MAY90          268831    3630
JUN90          264303    3120
JUL90          268815    3399
AUG90          277482    3514
SEP90          274419    4096
OCT90          251790    2176    248317.9219 2145.9939
NOV90          251789    2176    285631.5280 2468.4724
DEC90          245840    7534    289973.6921 8886.5189
JAN91          254890    3845    252289.5573 3805.7725
FEB91          260683    3579    267477.7923 3672.2879
MAR91          258672    4004    242610.3032 3755.3800
APR91          242876    3956    239986.2521 3908.9314
MAY91          245616    3532    238168.0451 3424.8971
JUN91               0       0         0.0000    0.0000

AVG
260679.083                      Deseasonalized Data for FY 91
                                  Regression Output:
INDEX                   Constant                        -8794.0408675
1.01398239 OCT          Std Err of Y Est                 1954.7928031
0.88151683 NOV          R Squared                        0.2409286974
0.84780104 DEC          No. of Observations                         8
1.01030737 JAN          Degrees of Freedom                          6
0.97459679 FEB
1.06620368 MAR          X Coefficient(s)        0.0496114
1.01204130 APR          Std Err of Coef.        0.0359503
1.03127184 MAY          t statistic             1.3799984
1.01390183 JUN
1.03121046 JUL          Y= -8794.0408675     +      0.0496114357 X
1.06445824 AUG
1.05270816 SEP
                                Unseasonalized Data for FY 91
                                  Regression Output:
                        Constant                         23264.332099
                        Std Err of Y Est                 1715.9735499
                        R Squared                        0.0886496767
                        No. of Observations                         8
                        Degrees of Freedom                          6

                        X Coefficient(s)        -0.077187
                        Std Err of Coef.         0.1010354
                        t statistic             -0.763961
                        Y=  23264.332099     +     -0.0771871847 X
```

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